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TRANSACTIONS

OF THE

STATE MEDICAL SOCIETY

OF KANSAS.

VOLUME II.

PUBLISHED BY THE SOCIETY.

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TRANSACTIONS, 1878.

TOPEKA, KANSAS, May 8, 1878.

The Kansas State Medical Society met at Dr. Stormont's Hall, Topeka, May 8, 1878, at 2 P. M., and was called to order by the President, Dr. W. L. Schenck.

On motion of Dr. Sheldon, the reading of the minutes of the last session was omitted.

The following members were present, viz.:

Drs. P. Burns, W. W. Cochrane, C. C. Furley, W. M. Gough, W. B. Gibson, J. T. B. Gephart, J. Haller, D. C. Jones, J. M. Linley, F. D. Morse, C. V. Mottram, T. Sinks, W. L. Schenck, E. W. Seymour, S. E. Sheldon, D. W. Stormont, J. H. Stuart, E. Tefft, H. K. Tefft, H. P. Woodward; Honorary Members, Drs. T. B. Lester and S. S. Todd, of Kansas City.

On motion of Dr. Stormont, the reading of the President's Address was postponed till 7½ o'clock P. M., at the Presbyterian church, and the public invited to be present.

Drs. Gephart, Gibson, Haller and Seymour were appointed to fill vacancies on the Board of Censors.

Dr. Cochrane, Treasurer, submitted the following report:

W. W. COCHRANE, Treasurer,
In account with Kansas State Medical Society.

To balance from 1876	$47 90	
To dues for 1877	88 00	
		$135 90
By amount paid J. H. Van Eman	$12 00	
By amount paid D. W. Stormont	10 00	
By amount paid for Transactions	75 00	
		97 00
Balance in treasury		$38 90

The report was referred to Auditing Committee, consisting of Drs. Sinks, Furley, and Stormont.

The Board of Censors reported favorably on the applications for membership of Drs. J. B. Gish, Valley Falls; C. W. Lindner, Clay Center; N. J. Taylor, Topeka; G. Boyd, Newton; B. E. Fryer, U.S.A., Fort Leavenworth, and they were elected members.

The application of Dr. G. H. Picard, of Topeka, was referred back the Society, with his business card. On motion of Dr. Cochrane, the application was laid on the table.

The Committee on Practical Medicine, Dr. Carpenter, asked for further time, which was granted.

The Committee on Surgery, Dr. Seymour, had no report to make.

The Committee on Obstetrics, Dr. Woodward, read a report, which was discussed at some length, and referred to the Committee on Publication.

Dr. Stuart presented a report on Gynecology. An interesting discussion followed, and the report was referred to the Committee on Publication.

Dr. Gibson was appointed to fill the vacancy of Assistant Secretary. Drs. Sink, Haller, Jones, Linley and Woodward were appointed Committee on Nominations.

The Society then adjourned, to meet at the Presbyterian church at 7½ P. M.

EVENING SESSION.

The Society met pursuant to adjournment, at the Presbyterian church; First Vice President Dr. Furley in the chair. The divine blessing was invoked by Rev. Dr. McCabe. The President, Dr. Schenck, then delivered his address on Public Hygiene.

Dr. Sinks moved that the papers of Topeka be requested to publish the address, which was carried.

On motion, the address of the President was referred to a committee consisting of Drs. Sinks, Stormont, and Mottram.

The Society then adjourned, to meet at 8½ o'clock A. M., May 9.

MORNING SESSION.

TOPEKA, KANSAS, May 9, 1878.

The Society met pursuant to adjournment; President in the chair

The Auditing Committee reported that they had examined the Treasurer's report and found it correct, which report was adopted.

They also reported favorably on the bills of Drs. Cochrane and Morse, and recommended that they be allowed. Carried.

The Committee on the President's Address reported that they found nothing requiring action by the Society.

A communication from Rt. Rev. Thos. Vail, inviting the Society to visit the College of the Sisters of Bethany, was received and accepted. Drs. Stormont and Schenck were appointed to make arrangements.

Dr. Fryer read a paper on Diseases of the Eye, which was discussed, and referred back to the author, with the request that he arrange it for publication.

The following resolution was adopted:

Resolved, That a committee of three be appointed by the Chair to make tests of the different forms of pills that may come under their notice, and report at the next annual meeting.

The Society then adjourned to meet at 2 P. M.

AFTERNOON SESSION.

The Society met according to adjournment; President in the chair.

Dr. Cochrane read a report on Conservative Medicine, which was referred to the Committee on Publication.

The Board of Censors reported favorably on the applications for membership of Drs. L. A. Buck, Peabody; A. W. Carson, Dover; H. C. Linn, St. Marys; and they were elected members.

The Committee on Nominations submitted the following report:

OFFICERS FOR THE ENSUING YEAR.

President—Dr. C. C. Furley.
First Vice-President—Dr. J. H. Stuart.
Second Vice-President—Dr. J. M. Linley.
Secretary—Dr. F. D. Morse.
Assistant Secretary—Dr. W. B. Gibson.
Treasurer—D. W. W. Cochrane.
Censors—Drs. D. C. Jones, G. R. Baldwin, T. Sinks, H. P. Woodward, G. W. Haldeman.

REGULAR COMMITTEES.

Practical Medicine—Drs. H. S. Roberts, W. B. Carpenter.
Surgery—Dr. D. C. Jones.
Obstetrics—Dr. J. W. Brock.
Materia Medica—Dr. C. C. Shoyer.

SPECIAL COMMITTEES.

Recent Advances in Physiology—Dr. J. H. Stuart.
Recent Advances in Chemistry—Dr. J. B. Gish.
Recent Advances in Hygiene—Dr. J. T. B. Gephart.
Infantile Diseases—Dr. J. L. Wever.
Nervous Diseases—Dr. W. M. Gough.
Medical Electricity—Dr. S. Whitehorn.
Capillary Bronchitis—Dr. H. P. Woodward.
Gynecology—Dr. B. E. Fryer.
Scarlatina—Dr. J. Haller.
Diphtheria—Dr. S. E. Sheldon.
Anesthetics—Dr. W. W. Cochrane.
Diseases of the Eye and Ear—Dr. D. W. Stormont.
Public Address—Dr. T. Sinks.
Delegates to the American Medical Association for 1879—Drs. B. E. Fryer, W. W. Cochrane, C. V. Mottram, D. W. Stormont, H. S. Roberts, T. Sinks, W. L. Schenck, G. R. Baldwin, E. Tefft.
Delegates to the Missouri State Medical Society—Drs. S. F. Neely, S. E. Sheldon, R. Morris, F. Speck, G. Boyd.
Delegates to the Nebraska State Medical Society—Drs. D. C. Jones, J. M. Linley, F. D. Morse, M. R. Mitchell, M. S. Thomas.
Place of Meeting—Atchison—Second Tuesday of May, 1879, at 7 P. M.
Committee of Arrangements—Members of the Society resident in Atchison.

On motion, the report was adopted.

Dr. B. E. Fryer, U.S.A., was appointed Delegate to fill vacancy to the American Medical Association, for the present year.

The following were appointed Committee on Publication: Drs. Stormont, Gibson, and Morse.

Dr. Taylor moved that a committee be appointed to memorialize the State Legislature on State Hygiene. Adopted. The following were appointed: Dr. T. Sinks, chairman, and Drs. D. C. Jones, C. C. Furley, S. E. Sheldon, and C. V. Mottram.

Dr. Furley read a report on Diphtheria, which was freely discussed, and referred to the Committee on Publication.

A report on Recent Advances in Chemistry, by Dr. Whitehorn, was read, and referred.

The following resolution was adopted:

Resolved, That we, the members of the Medical Association of the State of Kansas, memorialize the State Legislature to pass a law compelling all persons practicing medicine in this State to have a diploma, or a certificate from a medical board appointed for that purpose.

Resolved, That a committee of five be appointed by the Chair for that purpose.

Resolved, That all physicians be requested to use their influence as far as possible with the Legislature, to this effect.

On motion, the following resolutions were adopted:

Resolved, That the Society tender thanks to Messrs. Tilden & Co., and McKesson & Robbins, of New York, W. R. Warner, and John Wyeth & Bro., of Philadelphia, Park, Davis & Co., of Detroit, Chaplain, Green & Co., of Chicago, and Merrill, Thorpe & Lloyd, of Cincinnati, for their fine exhibition and liberal distribution of pharmaceutical preparations.

Resolved, That we hereby tender our thanks to Messrs. Powers & Weightman, of Philadelphia, for their beautiful, extensive and artistic display of chemical and pharmaceutical preparations, and also to their agent, J. P. Cook, for his courteous behavior and accommodating disposition.

Resolved, That we tender the thanks of this Society to Messrs. Aloe & Hernstein, of St. Louis, and their agents, Messrs. Stringham & Barnes, of this city, for fine display of instruments, and their uniform courtesy in their exhibition.

Resolved, That the Secretary be directed to forward to each of the foregoing firms a copy of the proceedings of this session.

The following resolution was adopted unanimously:

Resolved, That we tender our thanks to the officers of the Kansas Pacific and Atchison, Topeka and Santa Fe railroads, for their generosity in reducing rates to delegates; to the profession and people of Topeka, for their hospitality; to the officers of the Society, for the faithful and efficient discharge of their duties; and to Dr. D. W. Stormont, for the use of his hall and rooms.

The Society then adjourned, to meet in Atchison, the 2d Tuesday of May, 1879, at 7 P. M.

F. D. MORSE, M. D., *Secretary*.

ADDRESS OF THE PRESIDENT.

W. L. SCHENCK, M. D., OSAGE CITY, KANSAS.

Gentlemen of the Kansas State Medical Society: We have met again in annual conference, to exchange our friendly greetings, and lay our contributions upon the altar of science. That the public may better understand the objects of our association, and the character of our labors, you have chosen to depart from the custom of the Society, and ask that the address of your President be delivered before a general audience. Your will is his pleasure.

Ladies and gentlemen, we are happy to see so many of you present, and trust your interest in life and health will prevent your becoming weary with this discussion.

Whilst we rejoice to see so many new faces among the physicians in attendance, there are many others who should be here. Why are they not? Perhaps they feel the information to be obtained from the contributions presented will not pay them for their time and expense. If so, let them burn the midnight oil, and distill from their brains productions more worthy the Society and the State; and let them ask themselves whether the friendships formed at our meetings, from association with the best men of their profession in the State, will not amply repay them, even if compelled occasionally to listen to a tedious paper that tells them nothing new.

I would suggest that we endeavor to awaken a more general interest in medical investigation throughout the State, and in the State Society, by encouraging the organization of local societies in every county and city, and that to this end we adopt the representative plan of the American Medical Association; going, however, farther than that, and making all members of the local societies permanent members of the State Society, thus encouraging all worthy physicians in the State to take an interest in it, because members of it by virtue of their membership in a local society.

I would further recommend that we appoint a board of six examiners, in the various departments of medicine, two to be appointed annually, and that they be empowered to grant diplomas to any respectable physician of seven or more years' practice who shall pass before them a satisfactory examination; and that by virtue of said diploma they may become members of the local societies, and be entitled to all the rights of graduates from a regular school of medicine.

I would also earnestly recommend that we labor to awaken a deepe

interest in that department of medical knowledge which looks to the prevention of disease, and that we add to our standing committees one upon State Medicine and Hygiene.

I do not know, ladies and gentlemen, that I can better occupy the remainder of the time allotted to me than in the brief discussion of what Prof. Bowditch, in his address before the International Association, has styled "State Preventive Medicine." We shall only be able to glance at the field, but if thereby we can awaken a deeper interest in its cultivation, our efforts will not be fruitless. There are too many in the profession of medicine who look upon public sanitation as only incidental to their knowledge and duties. If Kansas has made no demand for this knowledge, so much the more should we possess it, and press its importance. For whilst personal and private hygiene must supplement all laws looking to the prevention of disease, no amount of care upon the part of individuals can prevent the invasion and destruction of epidemics without some general provision for protection.

We have our annual meetings to mark the progress of medicine; for whilst ours is a fixed science, it is yet progressive. The laws of physiology and pathology are unchangeable. Septic poisons, whether the result of silent and unseen chemical changes or composed of microscopic life, are the same as when Omniscience created and peopled the world. Nature practices no empiricism. All her changes are in accordance with fixed law. With all the countless generations of lives that have been multiplied upon the earth, it has ever been "each after his kind." One equivalent of hydrogen and one of oxygen have always produced water. Every chemical combination, under the same circumstances, ever has and ever will be the same. But the great and good men who have adorned the profession, from the Sage of Cos until now, have not exhausted our knowledge of the cause and cure of disease. We cannot rest from our labors. Only fools know everything. We have much to learn and much to discover. In our State organization we should especially note the progress of State Medicine, and strive to exert an influence that will mould public opinion and create laws for the protection of those interests to which we devote our lives. Whilst it would seem reasonable that legislators should be willing to be advised by those who labor to understand the cause, prevention and cure of disease, it will be found far otherwise. As individuals they will gladly solicit your advice for the protection of themselves and their families; as legislators they will look down upon and ignore you. If you doubt this, look at the reports of the various committees appointed by the American Medical Association. Dr. Catlin, of Connecticut, says his committee, in conjunction with one from the State Medical Society, urged upon the Legislature the importance of establishing a Board of Health, but failed. With commendable perseverance he adds: "If the

Association will continue us we will follow up the subject till we succeed, if we live long enough."*

Dr. Linthicum, of Arkansas, from a similar committee, in reporting *failure*, adds: "Until we are enabled to assemble a legislature from the higher walks of life, whose minds have been trained in intellectual and scientific pursuits, we cannot expect anything but failure. It is a sad commentary upon the intelligence of the law-making power of this great nation — the fact that health laws exist in only about twelve States of the confederation."†

And so the reports come to us, from east and west, from north and south, indicating that what would seem of easy accomplishment, will only be effected by persevering effort. But failure should not discourage us. The conscientious physician must feel the influence of a Christian civilization impelling him to nobler action than springs from the mere business relations of his profession. As he would advise a family under his care, whose ignorance or carelessness has permitted the accumulation of causes detrimental to health, so, as the representative of State Medicine, it is our duty to exercise guardianship over State Hygiene. Individuals may disparage us for pointing to their accumulations of filth and habits of intemperance, and the dignity of the average legislator may be offended should we advise him even upon matters of public health; but neither should turn us from the path of duty. We are not only to relieve suffering and contend with death, but to stand upon the watch-towers and guard the multitude against disease. We are to see that laws are executed prohibiting murder by small-pox, cholera, scarlet fever, and like diseases, and that they are executed as faithfully and efficiently as laws against other and less common destroyers of life. To this end you are to show our Legislature, and the people whose servants they are, that nearly one-half the children of the State die under five years of age, and that they perish largely from preventable diseases. You are to show them that foul air, impure water, unsound food, bad drainage, and accumulations of filth, are responsible for a large proportion of all disease; to show them how proper laws for registration of births and deaths, for the burial of the dead, for planting parks and establishing public baths, and how proper and thorough vaccination may prevent disease and promote health; and how the suppression of those monster sources of disease to both body and soul, in the guilty and the guiltless, in the sinning and in their descendants — intemperance and prostitution — would add to the health and happiness of the people; and that knaves are daily destroying the health and lives of fools by the growing sin of abortion.

The power of State Medicine has been acknowledged from the earliest times, and though the modern legislator may sneer at and pretend to

* Transactions of the American Medical Association, vol. 28, p. 377.

† Ibid, p. 379.

disbelieve, let some epidemic invade his city and home, and behold his frantic, though often unavailing efforts, because too late for its arrest. Until quite recently there have been but few instances where law-makers have shown the same wise and far-seeing policy for the protection of the life and health of the people manifested by them for other interests. In Kansas, the most ignorant pretender may dub himself doctor, and administer arsenic and antimony to any whose necessities require medical aid, and who are unable to discover his inability to render it. And with the masses, ignorant of the laws of pathology and therapeutics, the self-important air of the charlatan often passes for better coin than the serious aspect of his learned and scientific competitor. We do not ask for laws to protect any particular school in medicine, but only demand that no one shall be permitted to practice it without a thorough medical education. We believe the life and health of the people as important as their property, yet the lawyer is not permitted to defend the latter before the courts until he has passed a satisfactory examination in the law.

Much as we boast of the light of modern civilization, we are twenty centuries behind in sanitary law. In this material, "demonetizing" age, but little care is given by the State to the health of the people. Centuries before the Christian era, the Greeks erected magnificent temples for the worship of Hygeia, the beautiful daughter of Æsculapius and Asclepias. Without any knowledge of the Christian's God, there was a Christian regard for health and life. In the moral and intellectual awakening of the sixteenth century from the long night that had shrouded the world, medicine was re-baptized, but the spirit of controversy that swayed the ecclesiastical world entered the medical profession, and its great men too often expended their energies in demolishing and rebuilding medical theories. Like the theologians, they believed the essentials were in a sound creed, with *a free purgatory* and *full sal(i)vation*. Early in the present century there was a happy, hopeful change. Instead of speculation and theory, there was observation and analysis; instead of a general distrust of nature, there was confidence and reliance in her powers; instead of drugs and the lancet, always and everywhere, there was a desire to protect and prevent; instead of egotistical ideas of a secret art, incomprehensible to the people, there was the rationalism of common sense.

Whilst the profession was still in the hands of those of the older ideas, my professional studies commenced, and being thoroughly indoctrinated with the ideas taught in the lectures of Harrison, and Lawson, and Mussy, of Dunglinson, and Meigs, and of that best of men, the late lamented Edmund R. Peaslee, of New York, I had frequent discussions with my old preceptor, who would not believe that the more thoroughly you made your patient understand the *rationale* of your practice, the more perfect would be his confidence and your success.

The legitimate outgrowth of the careful study of nature in the cause and cure of disease, has been like the dawn of an era which by its wide-reaching philanthropy shall do honor to all who accept its promises. Under the lead of such men as Simon, and Virchow, and Bowditch, the medical profession is evolving, and statesmen are slowly adopting means for the prevention of disease and the prolongation of life, by destroying or removing, under the direction of powerful and wide-spreading corporations, the latent causes of disease, before they have developed into positive and active plagues, whose progress no human power can arrest. Thus shall Death be robbed of his most fruitful harvests.

Our own beautiful State came into being with this era in medical history, but what has she done to secure its benefits? Nature has done much for the hygiene of Kansas, dissipating by her constant breezes the septic poisons generated along her sluggish streams, in her rich virgin soil, and in her cities, innocent of all scientific hygiene; but what has the State done to aid in preventing disease, or to demonstrate its natural healthfulness? Nothing. She has expended thousands of dollars in exhibiting and advertising her agricultural resources, and inviting immigration, but nothing for the protection of the health of those who come to develop her resources and enrich her treasury. Either from lack of adequate power, or from conferring the power upon those ignorant of their duties, even the cities that have taken advantage of the powers conferred in their corporate acts, have accomplished little or nothing.

In answer to letters written to prominent physicians, the following are characteristic replies. Dr. Tiffin Sinks, of Leavenworth, says:

"There is no board of health in this city. . . . We have no laws for the protection or improvement of public health. . . . The hogs run at large in our streets and are our only scavengers. . . . There is a health committee of the city council, with the powers conferred upon cities of the first class. When a contagion prevails to an alarming extent, they do what the public demands. In other words, after the horse is stolen they lock the door."

Is it not far worse than the Doctor puts it? After the horse has been stolen all other horses are turned over to the thieves, and the stables locked until a new supply of horses and thieves are found. When an epidemic is raging, the garbage and filth of the city, festering with disease, is carted through the streets, scattering far and wide the seeds of destruction. When it has exhausted itself in fattening the graveyards, the latent causes of disease are permitted to re-accumulate until another generation of victims is born and another epidemic engendered.

Dr. J. H. Stuart, of Lawrence, replies:

"We have no board of health. . . . We have laws demanding the removal of dead animals, &c., &c. . . . We have laws regarding contagious diseases. We have a health officer, appointed by the council, who faithfully draws his pay."

The State of Kansas has passed but one law for the prevention of disease, and that was in the interest of her horned population. Yet

she has no interest so great as the life and health of her people. What earthly good would they accept for life? and of what value is life, or wealth, or honor, if the skeleton hand of disease is upon their possessor? What economy so important, what waste so extravagant, in the State. as the life and health of the people?

But you ask, Will proper sanitary laws free the State from disease — and doctors? Unfortunately, no. Fools will marry and transmit their hereditary diseases, personal violations of the laws of health will continue, accidents will happen, babies will be born, and the profession will be kept alive. But how much can be prevented? Nearly one hundred years ago, our distinguished countryman, Dr. Benjamin Rush, said that the means of preventing pestilential fevers "are as much under the power of human reason and industry, as preventing the evils of lightning and common fire. I am so satisfied of the truth of this opinion, that I look for a time when our courts of law shall punish cities and villages for permitting any of the sources of bilious and malignant fevers to exist within their jurisdiction."

Though human knowledge has not yet sufficiently advanced to prove this true, or human law given the opportunity, we believe a time will come when it will be universally felt and acknowledged.

All epidemics are the result of certain conditions which are necessary for their propagation. There must be a cause capable of producing them. There must be a place where this cause can be generated and propagated. There must be a personal condition favorable to its reception.

In many instances where we have not been able to define the cause, the conditions necessary to its existence have been demonstrated, as well as the means of its destruction or prevention. While cholera, yellow fever, scarlet fever, diphtheria, and the whole family of zymotic diseases, may find their home, if not their birth, among the filthy water-closets, sinks, pig-sties, and fens, of certain localities, like the denizens of these polluted quarters they will spread themselves over the community, where no amount of cleanliness can prevent their intrusion. The causes, or the conditions under which they exist, are demonstrable and removable, and if a city or State suffers its people to be decimated therefrom, it should be held responsible.

Small-pox was once the terror of the nations. Jenner taught us how simply and easily it may be prevented by removing the personal condition favorable to its reception. Yet the State permits, without an effort at prevention, this most loathsome of monsters, whose very name once blanched the cheek with fear, to miserably destroy its people.

In the exhaustive report on the cholera epidemic of 1873, prepared by John A. Woodworth, M. D., Surgeon U. S. A., and published by the Government, he has clearly shown that "What vaccination is to small-

pox, hygenic regulations are to cholera. The rigid observance of sanitary laws presents to this most virulent disease a wall which is almost insurmountable." (p. 66.)

Thus we might continue to show what can be, what will be accomplished, by State preventive medicine.

Even that terrible, transmissible scourge, consumption, as has been shown by Profs. Bowditch and Simon, like malarial fevers, finds its birth and home in low, damp, badly-drained localities, more especially to those who coddle and selvage every crack and crevice in the house, for fear the pure, reinvigorating air of heaven will enter, and drive out the exhausted atmosphere, poisoned with the decomposing organic matter, constantly thrown off from the skin and lungs. There can be no permanent health without fresh air, the great antiseptic, disinfectant and purifier, prepared by the God of nature, and distributed abundantly as the birthright of all His creatures. What private hygiene does for private homes, public hygiene must do for public halls, workshops, and school-rooms. Pure, fresh air is one of the grand essentials of health, and every house should be built with reference to its free circulation.

Oxygen was only discovered a century ago. Half a century ago we did not understand the physiology of respiration, and yet more recently have we learned the baleful influence of foul and putrid air. In the great Dublin lying-in hospital, during twenty-five years before ventilation was introduced, the mortality of its infants was one in six. Since the introduction of pure air it has been one in one hundred and twenty-four. These delicate little lives are our vivometers, and thirty-five per cent. of them go out in measuring the causes of disease which we permit to accumulate.

In England, physicians and statesmen are working hand in hand to protect the people from disease and death. France, and Germany, and Norway, are laboring earnestly in this important field. In America. Massachusetts stands in the front rank—all honor to the energy of her physicians and the intelligence of her legislators and people! When will Kansas move forward in this most important interest? Perhaps I may be told she is young, and does not need sanitary law.

"Youth is the time to serve the Lord,
The time to secure the great reward."

Last year there was an out-pouring of scarlet fever in Wichita. Do her people require any more little mounds to prepare them for preventive medicine? It has not been long since you felt the force of a similar epidemic in Topeka. Must the dose be doubled before you are willing to accept prevention? Whilst the most destructive contagious and epidemic diseases may be prevented or corralled, it can only be done under properly organized State and municipal boards of health, who understand what is needed and have power to do what is necessary.

Our legislatures, State and national, have been composed largely of members of the legal profession, and they have by legal enactment thrown strong safeguards around all kinds of property and civil rights, but they have done little anywhere to protect the health and prolong the life of the people. Not because they esteem property more valuable than life, but like sensible men they have made laws whose utility they could comprehend. What does a lawyer know about a bacterium or a micrococci? Perhaps as much as a physician, but he knows so little of the power of State preventive medicine that he has not felt the importance of legislation, and if placed upon a board of health would be ornamental rather than useful.

Let us briefly view the subject from another standpoint, well and thoroughly discussed in a report made by Edward Jarvis, M.D., to the Massachusetts State Board of Health and published in their report for 1874, upon whose logic and facts we have freely drawn.

Political economists, in estimating the value of the State, consider two factors — population and property. The State is composed of individuals and estates. The aggregate of these constitute its power. In calculating population all human beings are enumerated, infants and adults, sick and well. But all these do not contribute equally to the nation's strength. They represent a widely different power. A nation's wealth is the sum of its property, less its debts — incumbrances. Its productive power is its population, less its infants and invalids and the cost of their support. If the removal of debt increases the property value of the State, much more will the removal or prevention of disease enhance its personal wealth and prosperity.

Every disease or disability of the body, every impairment or failure in the development of the mind, detracts so much from the prosperous and safe administration of the State. Strengthen the arm, develop the mind, and thus much is added to its power and wisdom. Nay, now, every disability removed or prevented adds not only another factor to the general wealth and prosperity, but the amount that was required for its support. Thus the army of pensioners made by the Rebellion not only costs the State thousands of dollars, but this much added to the greater loss sustained from their impaired productive power. If it is wise to protect and encourage the development of wealth, as legislators in Kansas and everywhere have done, is it not equally wise to protect the sources whence it flows? When individual members of the State are the sources of its wealth, every dollar earned is a dollar added. The bodies and minds of the people are the fountains whence all its wealth proceeds. Of what value is any other source until subjected to labor and skill? Of what use are its minerals as they lie buried in the earth? A bar of iron is worth five dollars, but nearly all that amount is expended in digging and blasting and smelting. Convert the bar into needles and it represents fifty-five dollars; into knife-blades and

it is worth three thousand two hundred and eighty-five dollars.* It is the labor and skill of man that has created its increased value. Our fine exhibition at the Centennial illustrated what Kansas prairies could be made to produce. Nature furnishes us the raw material, but it is the brain and hand of man that give it value.

The State considers the minds and morals of its children a part of its capital, and compels their development, taxing its wealth to secure the means. How can it consistently refuse or neglect to enact laws for the protection of the powers thus developed? Of what use to the State are developed minds in unsound or dead bodies?

No one has a right to destroy the capital of the State. A man cannot burn his own house; much more he cannot destroy the body and mind of a citizen. Can the State, then, consistently permit the existence of causes which will destroy both—causes which she has power to remove, but over which the citizen in his individual capacity is powerless? The State is bound by its relations to its people, and by its own interests to extend the necessary protection.

Only a part of any human life is productive, and a portion of that is lost to the State by the necessity which compels it to provide for the unproductive portion. In an ideal state of society, three-eighths are under twenty years of age, five-eighths between twenty and seventy, and one-eighth over seventy. A little over one-half is productive, but this is *only an ideal condition.* Many die under twenty, and many who reach twenty die under seventy. In the United States the productive class varies from 47 to 56 per cent., the lowest being in Georgia and the highest in Massachusetts. Of the non-producing minors 35 per cent. die under twenty, before they reach the productive period. The cost of these non-productive lives to the productive, is estimated at not less than fifty dollars per year. At ten years they have cost $500, and at twenty, $1,000, all of which is lost by death. Thus in their economic relations to the State, we are enabled to estimate the enormous loss of 35 per cent. of the youth destroyed every year by scarlatina, diphtheria, small-pox, and other largely preventable diseases, but who will calculate the suffering and sorrow, the sighs and tears? Who will measure the agony of soul endured by those who are called to consign to the silent tomb these treasures of the heart?

In addition to this there is also a heavy loss among the productive class, which cannot be accurately calculated. Dr. Jarvis estimates that in Massachusetts, the most favored State in the world, out of an effective population of 796,252, there was, in the year 1870, a loss by sickness of 24,553, and by death of 276,461, or a total loss to the State of 301,014 years of labor, and this, he says, necessarily falls short of the total loss, as the calculation of sickness is based upon organizations that do not

*New American Encyclopedia, IX, 589.

pay for sickness where a physician is not called, or of less duration than one week, and that do not knowingly admit unsound persons to membership. Is it not evident that the greatest interest and noblest charity of the State is the protection of the life and health of her people? If the State can by any means arrest this loss to her productive capital. and prevent the consequent suffering among her people, is it not bound in interest and honor to do so? Certainly, replies the legislator, and the State prohibits and punishes murder, but how can she arrest the unseen messenger that scatters fever and pestilence over the land? Are not the issues of life with the Almighty? Can interest in life, or sympathy with suffering, arrest the fiat of Omnipotence? Has not He set metes and bounds, beyond which we cannot pass, and to which all alike must submit?

The Creator has made laws which govern life, animate and inanimate, and has ordained that whatever interferes with these laws shall bring disease and death, alike to man and animal and plant. With animals and plants, this has been conceded by legislators everywhere. With them the issues of life are not with the Almighty, and they have enacted laws to encourage their development and prolong their lives. The sour crab, the bitter plum, and the worthless peach, by proper protection and encouragement have developed into hundreds of varieties of most delicious fruits. The "long-horned" Texan is developed into a "native." In two centuries cattle have doubled in weight. The horticulturist and agriculturist beholds improvement in every department of life under his care. The various States and the United States have generously and properly assisted in securing this improvement. They have established State and National Boards of Agriculture, from among the best minds devoted to its development. They have aided in their investigations, and published their reports, and have discovered that human wisdom does not understand the "metes and bounds" of even animal and plant life. We believe the life and development of the men and women of the State are as important to its interests and to humanity, as the life and development of its hogs and potatoes, and we believe they are capable of expansion and prolongation, and we should ask, we should demand, that the State of Kansas shall manifest an equal interest in them, and that its legislators shall enact a law oranizing a State board of health, giving it full power to protect the interests under its care. To this end let us labor, faithfully, earnestly, and of the two hundred thousand annually slain in the United States by preventable diseases, rescue whom we may by *State Preventive Medicine.*

REPORT ON OBSTETRICS.

H. P. WOODWARD, M.D., WAMEGO, KANSAS.

We regard utero-gestation, from the time of conception to the expulsion of the fetus, as strictly a physiological process, and therefore admit the oft-repeated axiom, that "meddlesome midwifery is always bad." But the experience of the past has fully established the fact that child-bearing is fraught with unforeseen complications, many of which require all the tact and skill of the most experienced obstetricians to be prevented or overcome.

There appear to be conflicting opinions as to the *modus operandi* of certain drugs when given to pregnant females. Is quinine an ecbolic, or does it produce labor pains? In the *Medical and Surgical Reporter*, September 9, 1872, I find an article from Dr. Bailey, of Knoxville, Tenn., upon the effects of quinine upon the uterus, in which he uses the following language with reference to the impregnated uterus in miasmatic regions:

"The result of much and continued observation in the use and effect of sulph. quinine was, that when the agent was indicated as an anti-periodic, it was freely and fearlessly exhibited. It was very common to find a woman suffering from uterine pains during a fit of ague, and abortion or premature labor often occurred in cases where timely anti-periodic treatment could not be carried out."

In all such cases it was his practice, as well as that of others, to administer quinine promptly and freely. There was no other way to carry a patient over such a period of danger, except to suspend the periodical tendency.

Dr. J. E. Oatman, of Sacramento, says, in the Transactions of the California State Medical Society, 1872, page 119: "For five years he practiced in Kane county, Illinois, and in Chicago, at a time when malarious diseases were more numerous and malignant in the Western States than ever before or since, and for the last twenty years in Sacramento, California. During all this time he treated a large number of pregnant females, with all varieties of malarious diseases, in all stages of gestation, invariably with quinine. He relates a number of cases, where violent and regular pains came on during the fever, and by the liberal use of quinine and morphia they were safely conducted to full term, and delivered of healthy children."

Practicing as I have, for the last twenty-five years, in malarious districts, ten years in the cottonwood swamps of southeastern Michigan, where deaths from congestive chills were of frequent occurrence, I have relied upon quinine as a means of protection to all the pregnant women

coming under my care, prescribing it in large doses, and I have yet the first accident or bad effects to record from its use.

After a careful investigation of all the authority at my command, I find a large preponderance of the evidence in support of the above conclusions.

I have given quinine a number of times in labor, with a view to test its parturient effects. I have observed no marked results as to frequency or duration of pains. Therefore, I conclude it is safe and judicious practice to resort to that medicine, in all stages of utero-gestation, if complicated with malarial influences, or the case in any way demands a tonic or anti-periodic line of treatment.

Recently much has been written and said in regard to ergot, and the result of investigation has placed it in the materia medica as one of our most important therapeutical agents. Is the administration of ergot indicated in threatened abortion, with uterine pains and hemorrhage, with a view to arrest the hemorrhage and enable the woman to go on to full term?

Dr. S. B. Flowers of North Carolina, in response to query of Dr. Hiram Carson of Pennsylvania, in *Reporter*, "Would we ply a woman with ergot, when pregnant and threatened with abortion?" says, emphatically, "I would," and narrates three cases, most decided cases of uterine hemorrhage and threatened abortion, in which he used fluid extract of ergot in large doses, with the effect of arresting the hemorrhage and enabling the woman to go to full term. In conclusion, he asserts his confidence in ergot as a valuable remedy to prevent abortion.

Dr. J. W. Saunders of Clinton, Louisiana, asserts in the strongest of language, his confidence in the efficacy of ergot in threatened abortion, evidenced by pain and hemorrhage. Ergot in full doses is the safest and most certain remedy known to the profession, not for checking the hemorrhage and expelling the contents of the uterus, but to check hemorrhage and retain the fetus *in situ*, with safety to both mother and child.

Dr. W. S. Battles of Shreve, Ohio, gives his testimony in favor of ergot of rye, in threatened abortion. He says he gives it with the utmost confidence, and never has had bad results. This is strong language and positive.

Now, "When doctors disagree, who shall decide?" Nearly all the writers on materia medica hold the opinion that ergot has the power to produce expulsive contractions of the muscles of the uterus, at every period of gestation. My experience with ergot is, that when the uterus is not in a state of contraction, it has no effect on that organ whatever, even in large and repeated doses. When pains are present, the action of the drug is usually speedy and sure, manifested by an increase in violence and continuance of the pains. In fact, it converts the clonic into tonic contractions, which never cease until the contents of the

uterus are expelled, if no malformation or serious obstruction prevents. Consequently I have not administered ergot in threatened abortion, when I had every reason to believe it would cause the identical effect I wished to avoid. When I commenced practice, thirty years ago, we picked our ergot from the rye bins, and gave it in decoction in almost every case of slow labor, and the number of still-born children was unquestionably increased by that practice. In all cases where the ergot was given any length of time before the termination of labor, the child was invariably born in a state of asphyxia.

By a wise provision of nature, the pains of labor are short and intermittent, and when the contractions of the uterus are not powerful enough to expel the fetus, the only proper course is to use the forceps.

I never enter the parturient chamber without a supply of ergot, and employ it just after the birth, in order to secure a speedy delivery of the placenta, as a preventive from post-partum hemorrhage.

I am in the habit of placing my hand upon the hypogastrium of the patient, immediately after the birth, and ascertaining whether the womb be properly contracted, and I enforce its contraction, if neces sary, by friction and gentle pressure.

The ergot, with the above-named course, never has failed in my hands of producing the desired tonic contractions of the uterus, which is the only safety for the patient.

I frequently give chloroform in labor, and believe it to be one of the most valuable therapeutic agents in the hands of the accoucher. I have had the most decided and gratifying results from its employment in nervous and irritable subjects, when the head had entered the inferior strait, and the patient become wild and restless from sacral pains.

I was called in consultation with Dr. M., May 9th, 1876, in the case of Mrs. D., age 25, third pregnancy. Had been in labor twelve hours. On examination, found the head in the inferior strait. She was nearly frantic, with frequent short, cutting pains, with little or no advancement. The family was greatly excited, and fearful that the labor would terminate badly. I advised the administration of chloroform. The Doctor said he had proposed it, and the family would not consent to its use. I told him we would give it, or I would have no more to do with the case. The result was, we gave it, and with the most delightful effect. She was nearly conscious all the time, and expressed herself as so much more comfortable, although the pains lasted longer, and the child was rapidly advancing. In thirty minutes the labor was concluded. Mother and child did well.

October, 1875, I attended Mrs. C. in her seventh confinement. She is one of the most nervous and irritable of subjects. All previous labors had been slow and tedious. Had never taken anesthetics. I gave her chloroform early. She had a quick, easy and safe labor. Both mother and child did well.

Since we have discarded blood-letting as a remedy for rigid os uteri, I have depended upon liberal doses of morphine or opium, and have generally found it to meet my most sanguine expectations.

In this connection I will relate one case of ruptured perineum, which gave me a great amount of anxiety at the time.

It has been truly said, that our unfortunate cases are oftentimes most instructive. And as a general rule, the medical man who gives his experience, both good and bad, is not the least respected by the profession.

July 28th, 1876, I was called to Mrs. B., a small, delicate woman, age 21; had been in labor twenty-four hours; second pregnancy. Found the family doctor, a homeopathist, in attendance. Said he had given ergot. On examination I found the head in the inferior strait; had been in that position for a number of hours; patient worn out and disheartened from long suffering, with no prospect of delivery. I applied Bedford's forceps, and in one hour delivered her of a ten-pound dead fetus. The parts were supported in the usual way; the head emerged safely, but when the hips reached the perineum, it suddenly gave way. The laceration was a fearful one, down the perineal raphe, through the sphincter ani to the recto-vaginal septum. I immediately cleansed the wound, and attempted a radical cure by introducing two silk interrupted sutures. I used common curved needles, and carefully introduced them well back from the edge of the wound, and carried them deeply, so as to have a secure hold; tied the legs together at the knees, and gave a dose of opium. On leaving, I gave the doctor instructions not to move the bowels without consulting me. On the third day, when I made my visit, I was disgusted to find that he had been there in my absence and ordered a cathartic. I countermanded it. The family said they did not know which doctor's advice to follow. I learned on my next visit, that they gave it. Notwithstanding, with all the bad treatment, the operation was a perfect success. The ligatures were removed on the seventh day, and union had taken place throughout. The patient told me, not four weeks since, that she had no trouble, and feels as well as ever. I learned one important lesson in that case, and that was to have nothing more to do with quacks, under any circumstances whatever.

PLACENTA PREVIA.—March 14th, 1878, 10 o'clock A. M., called in consultation with Dr. M., of Wamego, in the case of Mrs. T., age 31, seventh pregnancy. Time up, within five days. Had been flooding at intervals for the last four weeks; was having light pains; countenance blanched; pulse one hundred and twenty-five. Saw a quantity of clotted blood in the vessel, which had been lost that morning. On examination, I found the vagina full of coagulated blood. Os oteri one and one-half inch in diameter, and yielding. We at once decided that the only way to save the patient from impending danger, was to turn and deliver without delay. After fully stating the case to the friends, we brought

the patient to the edge of the bed, the same as to deliver with instruments, and placed her on her back, with the head low. I introduced my right hand; found os soft and yielding; largest half of placenta to right of os, mostly detached to left and in front; head presented with vertex to the right ischium. After getting clear of the placenta, I rapidly slid my hand, palm to the child, betwixt the womb and the chorion, to the fundus uteri, when I put my fingers through the membranes, and immediately caught the right knee, and turned as speedily as possible with safety to the mother. The child was evidently dead, as there had been no motion for six hours. At this time we gave her one teaspoonful fluid extract ergot. In delivering the head there was some little delay. Did not use forceps, although we had them at hand. The uterus responded slowly to the stimulus of ergot, friction, and pressure. No hemorrhage after delivery. As near as I can judge, the time in turning and delivering was ten or twelve minutes. Weight of child, eight pounds. No signs of life. Mother did well, and made a rapid recovery.

RECENT ADVANCES IN CHEMISTRY.

BY S. WHITEHORN, M.D., WICHITA.

Recent advances in chemistry are blended with physiology, microscopy, and the revelations of the spectroscope. Much that is new in recent changes is of a theoretical character. The *Atomic Theory* has not only been maintained, but is the chief aid and element in the new explanation. Chemistry is the science which investigates the composition and properties of material substances, and also of the imponderables, light, heat, and electricity.

The bounds of this theme have become so enlarged, as also its associated kindred branches, that, *nolens volens*, we can cover but a small and selected field, leaving, perhaps, better things unnoticed. There is a general tendency to use the volumetric method of analysis, to employ the blow-pipe for quantitative and qualitative analysis, and to use the spectroscope for the detection of rare substances.

Chemical language is in a transitory state.

There is a suspicion that the elementary bodies are far fewer than now laid down. That we call Cl an element because we have not farther analyzed it, and that many elements may be a few unknown substances compounded.

The term essence is becoming more popular than element.

The gases entering into the composition of air and water have lately been liquefied. Much is expected of this discovery in studying

the composition of matter, and we may soon have more interesting and practical results flowing from this ingenious work. This feat was accomplished by immense pressure, intense cold and a perfect vacuum, all acting in speedy succession, and produced by ingenious and costly apparatus.

I cannot but conclude that the spectroscope yet holds many valuable and wonderful secrets. Prof. W. K. Kedzie, of the Agricultural College, has kindly answered several queries in relation to it, and I will give them for the benefit of appreciators:

Allotropic forms of elements do not necessarily give different spectra; but the spectra of the same element may differ according to the compound in which it is examined, and the temperature of ignition. Thus carbon gives four distinct spectra.

2d. There is no connection between the spectra of metals, whose atomic weights are the same, except a general resemblance in the position of the bands in the field of the spectrum.

3d. I think you would find it difficult to establish any logical connection between the spectroscopic bands and the musical scale of seven. For while the lines originally mapped out by Frauenhofer numbered, as you say, 596, further discovery has increased their number to thousands.

4th. The fact that a body gives more than one line in the spectrum does not show it to be compound. Very few elements give but a single band. Fe gives no less than 400, which correspond to dark lines in the solar spectrum.

5th. The spectra of comets' trails, although very faint, correspond to one of the spectra of carbon, obtained by passing the electric spark through olefiant gas; but whether such trails are simply incandescent C, or some luminous compound thereof, is not yet positively known.

6th. The spectrum of lightning is that of both N and O, similar to what would be obtained by passing electric sparks through tubes of rarified air.

I am thankful to the Professor for these data. Should conclude that the solar spectrum did not fix electrical light, as the color given is that of the incandescent gases composing the air.

The color-bands are in the spectrum colors that they resemble. Sodium gives a yellow and thallium a red color to the flame of alcohol. Silver gives a green cast to blow-pipe flame. The sodium band is in the yellow, the thallium in the red, and the Ag in the green space of the spectrum.

FERMENTATIONS, SEPTIC POISONS, VIRUS, ETC.—Fermentation is the conversion of an organic substance into one or more new compounds. There are several forms of this manifestation, yet all have striking similarities. Some progress has been made in fixing specific characters to some of these. Pemicilium develops micrococci in sugar into

cryptococcus in milk. Micrococci elongate and become arthrococcus. In acetic ferment they become lancet shape. Microzymas are minute brilliant specks. Monas crepusculum and bacteria termo first form in putrefactive fermentation. They then absorb oxygen from air and evolve (CO_2) carbonic acid, then die and fall to the bottom as sediment. Putrefactive fermentation is essentially disintegration, although it is carried on by living organisms. Putrefactive ferment engenders CO_2, phosphuretted and carburetted hydrogen, ammonia, and elementary bodies. Then is the process complete. Decomposition of urine is by ferment, and gives rise to ammoniacal gas. Its cells are smaller than yeast plant. Urea is converted into carbonate of ammonia. These microzoa engender ferment within the fermenting liquid, in the proportion of their propagation. Diastatic ferment converts starch into sugar, and amygdalic (syraptase or emulsine) changes amygdaline into essence of bitter almond. These are examples of ferments too minute for microscopic detection. Ptyaline converts amylaceous compounds into sugar. Pepsine liquefies albumen; pancreatine, the fats; and thus is digestion reduced to a series of fermentation, evolved under the influence of minute organic cells furnished by the mucous coat of the stomach and glands. All these actions are believed to be the attributes of organized cells. Each species is believed to have its own structure, specific energy, mode of nutrition, and fixed secretions, and these vary according to the media and circumstances.

Typhoid fever is believed only to originate from typhoid dejections, or a specific virus, and the same logic is evident in relation to other diseases of a zymotic character. Bacteria have been separated by filtration and dialysis, and the residuary liquid, containing no observable material but an amorphous granular substance, would generate its specific and peculiar virus, while the liquid with the bacteria was innocuous. Still we would conclude the former had its invisible ferment. The yeast plant well illustrates. It has its top yeast, developed by 85 degrees of heat, by buds, and some of these are very minute. In bottom yeast developed at 45 degrees, the cells burst, and their granular contents is the active element.

Some writers believe that diphtheria, vaccinia septicemia, virus of decaying blood, etc., exist independent of bacteria, and are, in essence, an albuminoid substance. A practical comment is, that what kills bacteria coagulates albumen. It is allowed that these organizations absorb the virus, and convey it to other parts, and seem to magnify its effects, if they do not even excrete the poison. Authors differ, and it is evident that the ultimate facts in the case are not yet known. Yet I am disgusted with the dogmatic positiveness of some of the fraternity over the views they adopt. I am hotly disputed by one of them over the declaration that fermentation is disintegration, and is a process of decay and destruction.

The decomposition of fermentable or proteine compounds is arrested by 280 degrees of heat, and if only oxygen and strained air are admitted, fermentation will not be resumed. This would indicate that the natural air contains some body having a chemical or catalytic force not possessed by pure oxygen and filtered air. The air contains everywhere germinal matter, protoplasm, bioplasm, or whatever you may style it, the living molecule growing wherever it may find a suitable soil. Alcoholic and putrefactive ferments are from the same source, and just referred to.

This may, under favorable circumstances, develop into perfect yeast cells. It rests on the skin of fruits, and alcohol is produced by its aid when they are pulpified. Its methods of manifestation are numerous and varied. Vinous fermentation splits up higher forms of combinations into lower and more stable chemical compositions. The active property of decomposing sugar, and forming alcohol, does not belong to the cells of yeast exclusively. Several chemical agents possess the same power, as binoxide of manganese and bichromate potassium, and certain vegetable cells are adapted to use it. Fruits left in O absorb it, and release CO_2. If left in CO_2 (carbonic acid), or any inert gas, they effect the production of alcohol. Chalk is one of the most powerful ferments. Besides being the remains of minute organisms, it contains living germs (microsymas cretac) of extreme minuteness. Chalk will produce alcohol, in a proper ferment, as well also as lactic and butyric ferment.

It has been stated that must of grape, if boiled and suspended in a bladder in the midst of fermenting must or wort, will not ferment, although the soluble contents of the cells may pass through the membrane. So whether a vital or chemical process, the presence of yeast-cell germs is indispensable. Each globule is composed of a thin membranous cell wall having the composition of cellulose ($C_6H_1O_5$), and is filled with a gelatinous proteine compound, consisting mainly of exceeding minute germinal granules. Another class of ferments have no definite formation to their corpuscles. Yet cell forms are believed to exist in all ferments. From analogical reasoning, they are believed to exist where the power of the microscope does not reveal them.

The present treatment of zymotic diseases and anti-septic surgical dressings, rests on the theory and developments of ferments. Microzoa are as much a part of the medical menagerie as elephants are of John Robinson's.

A brief digest of digestion is worthy of note. Through the aid of an accidental fistulous opening into the stomach of a young girl, a physician has lately made the observation that the time of digestion of each consecutive meal is an hour longer than the previous one, and that acid reaction follows near the close of the process, and at the same

relative periods. A cup of coffee or alcohol retarded the work an hour. Five, six and seven hours were the periods consumed in the digestion.

Glucoside has been found between the liver and the right side of the heart. It is deemed an agent in calorification, but in its perversion it becomes diabetic sugar. Physiologists believe the secret of diabetis mellitus is mainly in the liver, with possibly some associated action of the kidneys, and that it is caused by vitiated innervation, mental perturbation and indigestion; and the remedy is not yet. Glucose is a complex and high compound ($C_{24}H_{28}O_{28}$), and ought to be easily split up, by a proper ferment, into lower and innocuous forms. Experiments prove the liver to possess a wonderful power in eliminating vegetable poisons from the portal circulation. Animal poisons cause a vitiated bile also. We have not yet seen any practical hint from the first example, but think the latter fact can be made available in case of snake-bites, &c., by stimulating the biliary secretions, and emetics a few hours after the reception of an animal poison.

Among the noticeable pharmaceutico chemicals of the day, that space admonishes us to treat briefly, are Emetin, Apomorphia, Nitrite of Amyl, and Thymol. This last is deemed superior to carbolic acid as an antiseptic dressing. It is compounded from oil of thyme, is of recent date, and not exhaustively tested. The use of carbolized catgut and sinew for ligatures, especially for wounds of an internal character, is very worthy of note. Electricity, the *sine qua non* of chemistry, seems to have been of positive practical use in ovarian and uterine tumors, in aborting their growth and disintegrating their structure.

The brain substance has been closely analyzed and found to be rich in hypophosphites, and several remedies of much promise have been invented to simulate these vital chemicals, and offered as nerve food. Protagon, Cerebric Acid, and Glycerite of Kephaline, are names given to some of these remedies. The phosphorus pill of Warner contains one-hundredth of a grain so perfectly diffused that it becomes luminous on being crumpled up in the warm hand, in the dark. I have not tested this class to my satisfaction.

The profession may hope for much good results from the alkaloids, or other concentrated qualities, of Jaborandi and Ergot.

The internal use of permanganate of potassium in pyemia, is worthy of trial. The analysis of secretions and excretions has been diligently pursued till there is well-nigh a confusion in the multiplicity, and one cannot escape the thought that some of the processes may develop the chemical in lieu of discovering it; still, we expect to see this mass of facts utilized for the detection and treatment of grave forms of disease, in the near future.

Dialysed iron consists of the peroxide of the colloid (gelatinous) form, held in solution in a small body of water. It is believed to contain the minimum per cent. of ferric chloride to produce permanent

solution. It is claimed to be a very efficient antidote to arsenic, so it should not be prescribed with it. Dialysis is a new term.

It was long since known that if two liquids containing salts and other chemicals in solution were divided by an animal membrane, that these elements would intermingle through the tissues. This action was called endos and exos-mosis, now simplified into osmosis. The lungs, liver and capillaries exemplify this dialysing power of cells and attenuated tissues, for the contents of cells and capillaries are thus interchanged. Dialysed iron has little taste, is readily taken by children, does not interfere with digestion nor constipate the bowels, and has the virtues of ferruginous compounds in an eminent degree. Peroxide is one of the forms of iron in the blood.

I believe the microscope and test tube will be the chief agents and methods in ferreting out diseases and their causes and cures. Of course. the general practitioner must often avail himself of coarser and speedier evidence, in the main.

CONSERVATIVE MEDICINE.

W. W. COCHRANE, M. D., ATCHISON.

The present age has been prolific of noble, faithful and arduous scientific workers, and achievements have been made with such rapidity that the votaries of medicine are almost justified in looking forward to a millennium—a day when medicine will be acknowledged a perfect science. Notwithstanding the rapid progression in theory and practice, there is probably room for criticism, and doubtless improvement might result from a change both in the mode of investigation and in the subjects upon which efforts are being expended. The arbitrary rule of scientific investigation of the present day is to compel all theory to be verified by actual and uniform result. If experiments are not given in large numbers, and results uniform, the theory is not only looked upon with suspicion, but is at once derided as speculative, and considered unworthy of the notice of the erudite. Such is the skepticism of the age that no hypothesis can hope to gain the attention of scientific writers until it has been established by the most irrefragable proofs. This may be requisite to prevent dissemination of error. But may not the rule rigidly enforced be pernicious, in often destroying laudable effort, though it may at first be inefficient? So varied, inconstant and ambiguous are the natural laws, or their phenomena, to our weak and sickly senses, that it is indeed wonderful that any conclusive result should be reached, even by arduous investigation into the

most simple and natural problem. It may be said that any theory recognized by the scientist until it has been thoroughly tested, and proven a true and correct one, would be injurious, as error begets error, and is damaging whatever may be its extent. But there are but few theories of the present day that have been so thoroughly exemplified as to warrant a decision upon their entire practical utility, and it would seem to be absurd to discard any one of them at the onset because the first tests proved inadequate to establish the verity of the entire statement of one or more enthusiasts.

Empirical medicine, so collossal in the annals of the past, owes its prevalence and success almost exclusively to this mistake of scientists. Instead of patiently investigating, adopting truths and denouncing falsehoods, in a new and problematical theory or practice, it has been the universal rule that our fossils would denounce *in toto* all innovations on tradition. Progression in the science of medicine is despotically ruled by two classes; one the experimental investigator, the other the writer. Unfortunately, the former is too often immolated on the shrine of this invariable rule, and his energies paralyzed by the bitter attack of the latter class. The pen, though driven ever so nimbly, is not always impelled by normal brains. A brilliant experiment is often annihilated by uncharitable criticism; an initiatory solving idea is often utterly destroyed by writers who deem it requisite to ridicule all hypotheses on their first enunciation, simply because they do not understand them. They seem to consider it their duty—at least a privilege—to decry every problem which they may not comprehend as false either in fact or theory. To such an extent has this custom been followed by writers on medical science, that cotemporary scientists have nearly concluded that we are not worthy of a place in their ranks. Many plausible theories and therapeutical facts have had to run the gauntlet, decried and scoffed at by the talented, and neglected by the practical, until mountebanks or empirics, taking them up and using them for base purposes, have exemplified their merit, and finally forced their acknowledgment by the medical writer.

Many years ago the influence of the polar magnet on the nervous system was announced, and yet to-day it is doubtful if a single writer on the practice of medicine has even alluded to it as a remedial agent. So long were the writers in acknowledging the therapeutical effects of cold water, that hydropathy spread over the country, and for a time amazed if it did not frighten the profession. So long did venesection and mercury dispute the field with vegetable medicine and alkaloids, that it resulted in establishing the spurious school of Eclectics, who did much laudable work, made valuable discoveries, which the profession are now stealthily using.

No orthodox writer has been so bold as to publish that he had practiced attenuation, had experimented with it fairly, and thus proved it

to be fallacious; and Homeopathy is to-day working over our harvest field, and gleaning much of the best grain. What a long and weary struggle chloroform, the greatest boon of the age, had to undergo. How ardently the fossils fought it, and yet how few are they who now acknowledge it to be an innocent remedy. For a long while suggestion of the use of alcoholic stimulants in fevers was an appalling heresy, and although Dr. Todd has certainly complied with the established rule, there is still active war waged against it. Hypodermic medication is running the same slow, doubtful course.

Mesmer, reviled and grossly abused when living, has been awarded by the whole world the honor of perpetuating his name, for enunciating a theory which, had it been treated fairly, its methods developed, would have added to our store a remedy of inestimable value. Has mesmerism been tested by scientists and proved unworthy of continuous investigation? Surely there is no one at this date so bold as to pronounce it a fallacy, and certainly when utilized it will commend itself to the medical world. Those who are so reckless as to deny the existence of a vital force in the human system, which by manipulation may so influence volition, as well as the mind, as to pervert them from their natural course, will at least find themselves in the barren field of proving a negative. Nevertheless, this has been often attempted by scientists: and how have they proceeded? By investigation, such as Professor Tyndall gave to fermentation, when he proved the existence of bacteria, they have witnessed effects and results which they could not comprehend, and thereupon dogmatically pronounced them fallacious, thus deterring the investigating student from giving it a thought, and forcing this important abstruse subject into the hands of ignorant mountebanks. The exhibitions of these impostors have been so numerous and impressive that an ignorant populace have taken it up and perverted its utility by assuming that one branch of it supersedes the necessity of any medical therapeutics, whilst another branch they deem supernatural, and have constructed upon its fallacies a plausible religion. Scientists have continued this controversy, notwithstanding numerous defeats. Recently the renowned Dr. Carpenter published an article, which seemed from its exhaustiveness intended to annihilate and conclusively preclude the subject from scientific record. He was promptly answered by two able writers, who proved that he had not fairly investigated the subject, and that he was guilty of misrepresentation of facts. It is to be hoped that scientists will give up this contest, and do their duty by properly investigating this mysterious force. When they do this, they will probably conclude that animal magnetism, animal electricity, spiritualism, hypnotism, somnambulism, biological attraction, odic force, clairvoyance, and mesmerism, are phenomena of the same genera, originating in the same source, or emanating from one natural vital force. It is but fair, in giving this force a common

name, to call it mesmerism. When a medical man is called upon to express an opinion of any one of these phenomena, is he to say they are fallacies, that their exhibitors are all either deluded or impostors? He cannot certainly do so without ignoring facts, many honest narrators, as well as some scientific writers. Let the scientist acknowledge this a natural force, give it a technical name, and at once the whole profession will investigate, experiment, until its methods will be discovered, its truths verified, its errors eradicated, and its utility exemplified to the practitioner.

How often does hyperæsthesia prevent a correct diagnosis, how often is it the predominant affection. Could the physician, by his presence or his magnetic influence, calm the perturbed spirit and dispel the nervous tension of his patient, how much more would he be enabled to diagnose correctly, and what a reputation he would at once establish, as often he would cure without the deranging opiate or the uncertain anodyne. To attain this power it is rationally essential that the physician possess a healthy, vigorous nervous system, and that patient study, as well as intelligent practice, should be expended to insure success. The great opprobrium of our profession, the great bar to our progressing to a scientific or respectable grade, is the fact that no standard of moral integrity or mental capacity is or has been recognized, either by the schools or communities, as essential to the student of medicine. A young man of the present age, graduate of a common school, when he has sown a sufficiency of wild oats to deem himself an adept in the ways of the world, looks around for a respectable vocation — that is, one without work. He concludes that his talent is inadequate for the law. His timidity precludes his entering the pulpit. He discovers that his appearance or reputation prevents his obtaining a mercantile position, and he finally decides to condescend to medicine. He enters one of our medical schools, imbued with but one idea — that of making money, and this too, after, in many instances, having been satiated with debauchery, poisoned with stimulants and narcotics, until his nervous tone has been utterly destroyed. Alas for his patrons! Better had they a millstone hung around their necks. There are many notable exceptions to this picture, and experience teaches that they are generally rewarded. The worthy, competent student meets with success. Should the profession acknowledge mesmerism an adjunct to our therapeutics, and finally establish the necessity of a moral normal organization to practice it successfully, we will in this way have accomplished a reform of incalculable importance. The healthy student will be enabled to obtain and retain a store of therapeutical knowledge adequate to mature and sustain a successful practice. The physician will carry about him a confident manner, a breeze dispelling all doubt, tranquilizing patients as well as attendants, dismaying and destroying all empiricism within his scope.

DIPHTHERIA.

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Having been nominated at your last annual session to furnish a paper on Diphtheria, I must necessarily apologize for my limited experience, and want of facility to further study the disease at the bedside during the interim, and the consequent dearth of new facts.

Brettonneau attempted to prove from the writings of Hippocrates, that diphtheria was known in ancient times. In the early part of the Christian era it was called malum Egypticum, since which time it has been described by various authors and at different periods, under different names. It has been quite a frequent visitor in the United States, but was not known by that name until it appeared as an epidemic in California in 1856, where it was known from its incipiency as diphtheria. Its deadliness can be seen by stating the fact that in New York city, from January, 1859, to January, 1878, the deaths from this malady aggregated 14,117. No well-defined treatise on the subject of diphtheria was made until Brettonneau first described it to the French Academy of Medicine, in 1821. According to this author, "an inflammation without exudation is never diphtheria, and no inflammation with exudation is diphtheria when it does not spread by contagion; and, indeed, the membranous exudation is the poison itself which forms the pathological criterion for the disease." His essay on the malady would lead one to believe that croup and diphtheria only differ in the infectious nature of the latter, which is now known to be incorrect. An inflammation of the mucous membrane, with fibrous exudation, may or may not be diphtheria. If it can be shown that the disease has come by contagion, it will probably be also demonstrated that bacteria are present in the diseased membranes. It has been shown that the diphtheritic membrane, the subjacent diseased parts, and even the blood, contain great numbers of certain living elements which are visible through the microscope, which in their largest sizes are but very minute miscroscopical objects, and at their least sizes are probably unseen even with the most powerful microscope. These organisms are indefinitely self-multiplying, within their respective spheres of operation, and are known as bacteria vibrios and micrococci. These algals, for they belong to that order, are asserted to be the essential element of infection. Diphtheria, in its first stage, is purely a local complaint, which if destroyed gives rise to no further trouble. If not promptly arrested, however, the reproduction of the fungoid parasite so rapidly increases as to become an alarming constitutional disorder, the diph-

theritic exudation ensues, and from this the specific or septic poison is absorbed.

Our knowledge of the epidemics, of all zymotic affections, leads us to believe that they are dependent on the rapid development of the different forms of bacteria, of which we find it stated that a single one can multiply so rapidly that in twenty-four hours it will have originated over sixteen millions. Diphtheria manifests its preference for the mucous membranes of the air passages, usually the trachea, from which, as a focus of infection, and the constant multiplication of these parasites, the disease rapidly becomes general, the poison increasing, if not arrested, until the organism is incapable of life.

Bacteria spores, which exist in ordinary atmosphere, only require lodgment in moist locations to fructify. They exist naturally on the mucous membrane, from the mouth to the anus, and in all putrefying fluids, rapidly multiplying in favorable locations. and having, during their germ existence, taken upon themselves the peculiarities of the atmosphere in which they floated, are able to propagate disease with rapidity, if there be such of an infectious nature present. Thus they are active in diphtheria and all zymotic diseases, in all putrefying fluids, and in gangrenous conditions. They can, therefore, as in contrast with common poisons, develop fearful effects. They are the real ferments of putrefaction, and are always present when putrefactive changes are in progress, as in all decaying matters, and are the parents of all infectious disorders. Their multiplication makes epidemics.

It is probable that there exists for each definite disease of infectious origin, a principle peculiar to itself, which is reproduced by the living germs of that disease, though it is impossible with our present microscope to distinguish the difference in some of these parasites. That this difference does exist, is proved by the fact that these organisms or disease germs are present in the various contagious disorders, and in no two are identical. To all intents and purposes, the infectious principle of zymoses is a seed. It is sown as seeds are sown, multiplies itself as seeds multiply, and always reproduces bodies like itself. As of old, "some seed will fall in stony places and wither away, while others falling into suitable soil bring forth an hundred fold." No matter how we regard the poison-producing material, it is sufficiently conclusive to know that these protophytes are always present, and coexistive with the spread of the septic disorder, though some assert that their presence in these diseases is an accidental product, not concerned in creating the disease, but a result of it.

Says Tyndall, "Expose a mutton chop to the air, and keep it moist in summer weather, it soon stinks. Place a drop of the fetid chop under a powerful microscope, and it is seen swarming with organisms. These organisms, which receive the common name of bacteria, are the

agents of putrefaction. Keep them and their germs from your meat, and it will forever remain sweet."

The success and the practical working of Lister's antiseptic dressings for wounds admits of plausible explanation in no other way than in the acceptation of the germ theory of the causative influence of these minute vegetable organisms, as agents of putrefaction. The evidence of the entire banishment of infection from hospitals where the majority of operations were followed by pyemia, gangrene, or erysipelas, is too authentic to need proof. The bacteria and vibrios have an undeniable share in the production of all zymotic diseases.

Pasteur has proved that grape juice will not undergo fermentation while in contact with pure air, but that fermentation begins when the liquid comes in contact with the germs floating in the atmosphere. In 1858 he showed beyond a doubt, in the case of grape juice or beer wort, and also in any other saccharine liquid, exposed to the air, the more or less rapid production of microscopic fungi, consisting of rounded globules.

As long as putrefaction goes on, bacteria continue to multiply. In fact, bacteria termo is the constant and indispensable inhabitant of putrefaction. Professor Cohn has shown them to be vegetable in their nature, and increase by division, and not by budding. According to him, the "putrefaction of nitrogenous organic matters is neither a spontaneous *post mortem* decomposition, nor is it a simple oxidation under the influence of the atmosphere. It is rather a chemical process caused by the action of bacteria termo. Just as sugar is never converted spontaneously into alcohol and carbonic acid, and is brought into fermentation only by yeast fungi, so nitrogenous organic matters never putrefy of themselves, but only by means of the vital activity and multiplication of bacteria."

Whenever the diphtheritic membrane is noticed, it is found that these bacteria have penetrated the tissues, and if micrococci are not present, it cannot be true diphtheria. It has been shown that there are several varieties of these minute organisms, termed bacteria, which penetrate tissue, and multiply themselves there; and that one form in particular, microcc, is always present in diphtheritic exudation, always, however, accompanied by a secondary form, called bacteria termo, an organism which is always present in putrefying animal matter. Other kinds of bacteria appear in other diseases of the mouth and throat. It has been observed that no micrococci penetrate croupous membranes caused by application of spirits ammonia and substances of like nature. It is also noticed that when micrococci commence their growth, they displace other fungoid vegetations, as of the oidium albicans cryptococcus lepthothrix buccallis. The quantity of microcc developed in the animal is the exact indication of the severity of the disease and the virulence of the diphtheritic contagion.

It has been asserted that the exudation is a result of the increased fungoid organizations affecting, by preference, the mucous membranes, simply by damming up the capillary blood-vessels and causing an exudation which serves as a soil in which these bacteria thrive. Dr. Oertel, of Vienna, and Prof. Ebert, of Zürich, describe micrococci as constantly present in diphtheria, and both observers have found that its inoculation in a different part of the body, in healthy animals, produces a diphtheritic malady, having its starting-point at the place of inoculation.

The first discovery of parasitic vegetation in cutaneous affections was made by Schlonlein, in 1839, who found in the crust of favus cryptogamic vegetable filaments in the diseased growth, which was afterward confirmed and more accurately described by Gruby's description of the mycelium filaments and their spores. He declared the malady to be "nothing but a vegetation," and gave the name of the parasite, achorion schonlenii. He subsequently discovered a microscopic vegetation growing upon the skin in a case of porrigo decalvans, and the same parasite, the tricophyton tonsurans, has since been recognized as a constant accompaniment of tinea sycosis and tinea circinnatus. In tinea versicolor another parasite, called microsphoron furfur, was discovered. When these microscopic fungi were discovered, as now with the more minute micrococcus, many believed them to be merely incidental to the disorder itself, and not the essential element and cause.

When the spores or eggs of these minute organisms can be separated and placed in suitable locations in healthy individuals they are found to germinate and multiply, and so create disease. The infectious character of such a malady is determined not to depend upon a virus, in the old sense of that word, but a vegetation that reproduces itself, fructifies, germinates and rapidly multiplies. This vegetation must, in such cases, be regarded as the cause, the disease being destroyed by a proper parasiticide. Proof is piled up that the spores of these organisms are to be found in the atmosphere adjacent to the fungi themselves, needing only proper soil for their fructification. Tyndall's well-known experiment, made last summer, with vegetable and animal infusions carefully inclosed in sealed flasks and transported, for experiment, from London to the higher regions of the Alps. On opening the flasks no trace of life was visible, under a most powerful microscope, in the infusions. Twenty-seven of them were opened and left, exposed to the atmosphere, in a hay loft, the remaining twenty-seven being carried to a greater elevation and placed where the winds from the perpetually snow-covered summits swept over them. In a few days the infusions in the flasks placed in the hay loft were turbid and swarming with life, whilst that exposed to the mountain breezes remained clear and undisturbed. Prof. Tyndall holds that

experiments like these, which are quite numerous, simply prove the existence of the germs of various minute organisms in impure atmosphere.

Diphtheria, like all of the zymotic diseases, is simply a conflict between the person smitten by it, and a specific organism, micrococcus, which multiplies at his expense, appropriating his air and moisture, disintegrates his tissues, and by their rapid increase, destroying his vitality. The germs of these minute vegetable organisms exist in the atmosphere in certain localities, according to circumstances favorable or not to their propagation and development.

As years roll on the *germ* theory of disease meets its proof. Under no other theory can the possibility of infection, in many cases, be shown. The filth nuisance, with its defective draining and soil contamination by badly constructed vaults, adjacent to the water, may be a great factor in the propagation of germs. Thus, it has been proved that the spread of typhoid fever is due to a minute vegetable existing in well or river water, contaminated by sewage or other filth, which is sometimes transported to cities by milk being diluted with water from such infectious localities.

At the International Medical Congress, at Geneva, two years since, statistical information was brought forward, showing that the water level being at a low ebb, disease increased, and that an increase of moisture was followed by a corresponding decrease of typhoid disease.

The contagion of diphtheria, diffused by the exhalations of the patient, may be carried through the air, or by solid matters to which it has attached itself. The contagious principle is very tenacious, clinging to a locality. It seems by choice to attack children under ten years of age, though no period of life is exempt, its greatest mortality being from the second to the fourth year. Infants under six months are exempt from the disease.

One attack does not grant immunity from subsequent attacks, which are as marked in such complaints as measles and small-pox. A little experience with this disorder leads one to dread it as a scourge, which in many cases the physician finds himself impotent to arrest.

The difficulty of the problem of the origin of the microscopical fungi and the cause of specific infectious disease, may be considered independent of such an intricate inquiry, by accepting the facts as we find them, and attempting to rid ourselves of their cause.

Experiments have been made with many substances, to find what will destroy these microscopic algæ, and it was found that quinine, calomel, and carbolic acid, would have but little effect; opium, nux vomica, chloroform, and chloral, but little more; but that tannin, sulphate of iron, chlorate of potassium, chlorine water, and dilute mineral acids, would kill them.

LACERATION OF THE PERINEUM.

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This accident occurs far more frequently than is generally admitted. There is reason to believe that it occurs sometimes unrecognized by the physician in attendance, and it is certain that it has frequently existed a long time in many instances, giving rise to its train of evils, unrecognized and unsuspected by the sufferer. The knowledge of it may have been intentionally withheld from the patient by the physician, at the time of its occurrence.

There are many physicians, and some of them good ones, who think laceration of the perineum never occurs to any extent, in their hands. This is extremely doubtful, though such cases might occur, perhaps, in the line of those streaks of good luck that are sometimes observed in the practice of medicine. I can myself testify to more than one instance, in which physicians with a fair proportion of obstetric practice have asserted that the perineum was never torn under their management, whilst patients who have never been attended by any other physician have applied for relief with very severe lacerations.

Hospital experience abundantly proves the frequency of the accident, even when the patients have been attended by good practitioners.

Prof. Snow Beck declared that "if the parts were examined after labor, more lacerations would be discovered than are generally reported."

Many believe, with the lamented Simpson, that the fourchette of the primapara is always rûptured, whatever management it may receive, or if there be no management at all. Such, however, is not the case; as we can all testify, doubtless, that we have found it intact in both primapara and multipara, under our own management.

It sometimes requires very close scrutiny to detect a laceration of even considerable extent, immediately after a delivery, when the parts are distended, swollen, and covered with blood-clots. Nothing but actual inspection, with the parts cleansed, and under a good light, will reveal the injury. This I always do, unless I can assure myself that the fourchette is intact by catching it between my thumb and finger.

It is generally believed that simple rupture of the fourchette is of no consequence, and many hold the same opinion in regard to a rupture that extends even to the sphincter ani. On the other hand, it is doubtless true, that the "loss of any fiber entails a corresponding loss of power in the floor of the pelvis, and a consequent impairment of the support to the reproductive organs."

The evil consequences of this accident are not likely to be appreciated without a careful study of the anatomical and physiological

value of the perineum to the neighboring organs. This structure consists of a "central tendinous point," the tendinous expansions of four muscular reaches: that of the sphincters of the anus and vagina, in the line of the longitudinal diameter of the pelvic opening, and attached respectively to the coccyx and the symphisis pubis; and the transverse perineal muscles, in the line of the transverse diameter, and fixed to the ischeal tuberosities. To this is added the "skin, the areolar tissue, and a portion of the posterior wall of the vagina." It will thus be seen that its support consists mainly of the action of four muscles diametrically opposed. One point of support being destroyed, the result is a gaping wound from contractions of the broken fibers, and a weakened and irregular support to the dependent organs.

Prof. Thomas says (Diseases of Women): "A fact in connection with the anatomy of this part, is to be borne in mind, that it is the inferior support or buttress for the posterior wall of the vagina. This wall runs to the end of the perineum, arching backwards towards the rectum. Should its support be destroyed, the vaginal wall may be affected unfavorably in two ways: first, the destruction of the perineal raphe weakens the sphincter vaginæ, and thus the whole of the ostium vaginæ loses support; second, the distal extremity of the posterior wall being carried by the rupture and subsequent cicatrization farther back towards the coccyx, the previously existing arch is impaired, and prolapse is rendered probable."

Prof. Harvey says: "In addition to the support given to the vagina, and through it to the other pelvic viscera, in the manner already mentioned, it acts as a valve, which by its inherent contractile powers. and the aid which it receives from atmospheric pressure, makes the structure one of vast importance in support of the ostium vaginæ and neighboring structures above. It follows, then, when it is partially or wholly destroyed, the results which may be expected, varying according to the extent of the rupture, are urethrocele from want of support to the ostium vaginæ; prolapsus of the vaginal walls, accompanied or not by a cystocele or rectocele; displacement of the uterus, either by simple descent, anteversion, or, what is perhaps more frequent, retroversion; giving rise in their train to hypertrophy and induration, by impeded circulation, and granular ulceration by friction. Sexual intercourse is unsatisfactory, prolonged, and consequently an additional cause of irritation. When the laceration extends through the sphincter ani, loss of control over the contents of the rectum is added to those above mentioned."

Add to these, their usual train of aches and pains in the head, back and limbs, and abdomen, with a general feeling of malaise and discomfort, attended also by protean nervous disturbances, and we have a condition truly deplorable, but none the less real.

Concerning the management of the perineum, to prevent its breaking

during labor, the literature on the subject presents a striking testimony, not only to our powerlessness to render efficient help in this stage of a physiological process, but also the great harm that may be done by an obtrusive and meddlesome interference. As such, we should reckon the indiscriminate use of lard and oils, which dissolve the natural secretions of the parts, thus rendering them dry and irritable; the calling on the patient to "bear down," and "help nature," at a time when labor should not be too much hastened; and officious manipulations, such as continued pressure with the hand or a towel, interfering with the circulation, and harming the elasticity and vitality of the part; artificial dilatation of the ostium vaginæ, thumbing and bearing down on the perineum, thus provoking unduly uterine pains.

Prof. Goodell, in an able paper published in the *American Journal of Medical Sciences*, has shown that the ancients were acquainted with the accident. Allusions made to it by Hippocrates, Cleopatra, Celsus, Archigenes, Galen, Paul of Ægina, Avicenna, and Albucasis, and others. They speak of various injuries as occurring to the genital organs from labor, with great confusion of terms, most of which doubtless refer to the one in question. But there is no mistaking the language of Nicholas Culpepper; for instance, he warns his readers that "the perineum sometimes breaks with the skin from the privities to the arsehole." The reason of this indefiniteness in the old writers, is, doubtless, that the management of lying-in women was wholly intrusted to midwives, and the obstetric chair, which necessarily prevented any manual assistance by the attendant.

Says Dr. Goodell, quoted from above: "About the middle of the last century, the pioneers in the revival of midwifery were impressed with the idea that in the process of parturition the perineum had been overlooked, and that art in some shape must come to the rescue." About this time the obstetric stool began to be abandoned, women began to be delivered upon their beds, and the forceps had been invented.

Puzos, in his work on midwifery, written in 1747, was the first to suggest manual support to the perineum. Says Prof. Harvey: "Since the middle of last century, the various plans for preventing rupture, each one of which has been, and some are now advocated by able men in the profession, are summed up as follows: There are those who make pressure on the perineum, to retard the head; those who make pressure to accelerate its advance; those who deny that any such effect can be produced; those who conscientiously use support, because something must be done; those who direct all the pressure at the fourchette; others who deprecate this and as carefully guard the posterior perineum; others who will not touch the perineum on any account, those who push the perinium backwards, and those who for equally plausible reasons push it forward; some dilate the sphincter ani, some the sphincter vagina, and some plug the anus up; some place their hand transversely across

the perineum; some longitudinally with their fingers looking downward; some longitudinally with their fingers looking upward; some who attack it with their knuckles; some scoop out the head with the vectis; others drag it out by the ears; others rely upon the forceps; finally some use the right hand, others the left; some advocate a folded napkin, others an unfolded one; others frown upon all napkins, folded or not, and use the naked palm." We should add, there are others who press the nates together, and others, following Niemeyer, who use the tips of the fingers, on one side, opposed by the thumb on the other, giving the perineum free room to expand into the concavity of the hand; some who make the head hug the pubis by direct pressure on it; and others who push the head down on the perineum. It is asked, "Does not this discordance in the rank and file of the profession, show a lame cause?" Granting that the perineum requires support — and this seems to be the opinion of the majority — is it not strange that there has not yet been devised one single method of giving this support, which by meeting every requirement has commended itself to the profession? Is it not marvelous, that in the management of the only stage of labor which appeals to more than one of the five senses of the physician, those of sight and touch, there is a greater diversity of opinion than in that of any other stage? Am I to believe that nature, after making such admirable provision for the earlier stages of labor, bungles matters to such an extent at the end, as to render the aid of the obstetrician in every case necessary to remedy a mechanical deficiency? Goodell thinks, also, that "were the os uteri, or the uterus, equally visible and tangible, we would be frightened into encircling them with our hands, greasing them, folding towels about them, etc."

Bland, Nagele, Foust, Wigand, Schmidt, Meade, Ritgen and Killian are entirely opposed to any support. In France and England the advocates of no support are numerous and influential.

It is claimed that the muscles of the perineum have the instinctive power, so to speak, of expansion, even before the head has begun to impinge upon it. Who has not observed, after the waters have broken, how the part seems to relax and to be getting into readiness for the coming event, which a little before seemed so unlikely to be able to take place without a break, and which somehow transpires safely, to the great satisfaction of the attendant and the relief of the patient?

Denman confessed that when women were delivered without assistance, he had not, in any case, observed any considerable laceration. Hardy and McClintock admit that when the perineum is not supported, laceration occurs much less frequently than might have been expected. According to Tyler Smith, "some of the most practical accoucheurs have stated that they have never known an instance of laceration in secret births where the woman was left entirely alone." In my own practice I have about abandoned pressure on the perineum, in the way

of support, altogether, and simply place my fingers on one side of the fœtal head, opposed by the thumb on the other side, as it protrudes through the ostiom vaginæ, and thereby endeavor to retard its progress, if it seem to be too rapid, and at the same time cause it to hug close to as it sweeps the pubic arch. At the same time, also, I give to the head a slight rocking motion, from side to side, which seems to relieve a little first one side and then the other of the tensely stretched tissues, till the danger is past.

It only remains for me to allude briefly to the treatment of a lacerated perineum, in order to secure its restoration. I should say, never trust to nature alone, with the hope that it will heal, even by confining the patient, for such is bad practice, even if a small per cent. should succeed. In a word, always introduce sutures at once, drawing the parts together accurately, and then by proper nursing, cleanliness and patience, you may hope for a restoration. Silver wire should be used, though the silk or hempen cord may do well. On one occasion, being unable to procure anything better, I secured good results with the use of common spool sewing-thread. If done at once, when the parts are benumbed by the recent delivery, there is no great pain produced, and if the needle is introduced so as to gather the deeper tissues, as well as the skin, and nicely to coäpt the edges of the wound, it is almost sure to heal. I believe it is better to keep the bowels rather solvent and evacuate the rectum daily.

For a cicatrized wound, the operation is similar, except that the edges are first to be freshened, by paring with the scissors, taking pains to remove a sufficient amount of skin and mucous membrane, so as to secure a strong band of reunion. Great care must be had to leave no particle of the surface to be reunited unfreshened, as it would likely cause a failure. This operation has become an established one within the past twenty-five years, and only within the last half of that period has it been brought to its present simple and successful method, which secures its unquestioned acceptance everywhere. Unqualified praise is due to Baker Brown, Sims, Emmet, Storer and others, who have so greatly contributed to this improvement.

THE EYE, AND SOME FEW OF ITS DISEASES.

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It will be my endeavor in the following remarks, to interest you as general practitioners in a more satisfactory appreciation of the methods of investigating disease of the eye, and so enable you to treat some of these diseases as they are now treated by ophthalmologists. And while,

of course, in the time allotted it will be scarcely possible to give more than a mere outline, it will be my hope to place you in such a position that by care and future study you may be able to further investigate exactly for yourselves, and treat somewhat with a positivism of specialists some few of the more frequently occurring diseases of the eye which may be brought to you for counsel and advice. In selecting these few diseases for attention, I shall only include those of most frequent occurrence, and which are most frequently maltreated.

The field of modern ophthalmology and otology is a large one, and the workers are indeed many, and I think it may be well said of them that there has been probably more exact study and more exact results from investigation in the branches mentioned, than in all the others (save, perhaps, physiology) taken together. And the effect upon you as general practitioners of medicine and surgery of a moderate devotion of time in modern work in the eye, will not only enable you to investigate more satisfactorily for yourselves, but will also help in making more exactness of thought in diagnosis in general practice — much more positivism and correctness than is ordinarily had to-day, and will so assist you in your train of thought over difficult cases. by the mental discipline, that solution of the problems (of which our life as medical men is full) will be the more easily and correctly had.

I shall not have the opportunity to offer you many facts new in opthalmology, for much that I have to say may be found in the recent works on the subject, but I shall hope to present the matter to you in such a way that the difficulty generally had in gaining an introduction to a new subject like opthalmology (for I shall of necessity presume that it is a new study to a majority of you), that the generally considered difficult and technical portion may be explained to you satisfactorily, and that in reading hereafter special works on the subject, and special papers by ophthalmologists, you may have a correct idea of their meaning and force, and that in publishing cases for yourselves, you may be able to record as specialists record.

I shall first allude, very briefly, to the more important points in the anatomy of the eye, and then physiologically consider the organ, including very briefly the optics involved. I shall then describe the means of investigating the diseases of the eye, and the methods of determining the correctness of vision. And I shall next speak of the anomalies of accommodation and refraction, and shall finally consider the more commonly met with diseases proper of the eye, with a few hints in treatment.

The eye may be said to approach a sphere in shape. That portion of it which can be viewed in situ, is covered by a delicate mucous membrane — the conjunctiva, which also lines the eyelids. The conjunctiva, for convenience of description, is divided into that which covers the lids,— conjunctiva palpebrarum, the point where it is reflected — the

fornix conjunctiva; and that covering the eye—the conjunctiva bulbi. This membrane differs in thickness at different points. It is thin at the margin of the lids; it becomes thicker in passing from these margins, and it again becomes thinner, where it is reflected on the eyeball. It is irregularly divided into elevations by grooves which cross each other at intervals, and these elevations are often incorrectly described as papillæ, though they are only papilliform elevations of the membrane. At the edge of the lids, the grooves are shallow, but become deeper as we recede from the margin of the lid. True papillæ are found in the conjunctiva of the adult, which are small and scattered near the free edge of the lid. but they increase in number and size as we approach the fornix. The epithelium has at the free border of the lid, several layers; on the post-surface it has a superficial layer of flat cells, which contain one oblong nucleus, and then two or three middle layers of polyhedral, and a lower layer of cylindrical cells. At the reflection of the conjunctiva from the lid to the eye, the membrane is thin; a very loose, sub-mucous tissue only attaching it below. The membrane here has more layers of epithelium than that of the tarsal portion, and the epithelial cells of upper layers are conical or cylindrical; no well-defined papillæ are found.

Laminated pavement epithelium exists on the conjunctiva bulbi, with about the same number of layers as on the lid margins, and well-marked, though not numerous papillæ are found in this part of the conjunctiva, which are less in size as the cornea is neared, and are wanting altogether in that part adjacent to it. The epithelium covering the cornea differs from this, mainly in that the deeper layers are more sharply defined and more transparent. In this short account of the conjunctiva, I have only mentioned the more essential points of practical bearing. The sub-mucous tissue and lymph follicles, vascular and nerve supply, have not been alluded to.

The sclerotic, which makes up about four-fifths of the external covering of the eye, is about a millimeter in thickness, anteriorly becoming somewhat thinner. In the portion near and anterior to the insertion of the recti muscles, the sclera is strengthened by their tendons. The foramen for the passage of the optic nerve is about two millimeters in diameter, and is not only occupied by the optic nerve, but has crossing it bands of white, fibrous tissue, making what is called the lamina cribrosa. Just posterior to the cornea, the sclera contracts somewhat, making a slight depression, the sulcus sclera, and immediately in front of this, in the thickness of the sclorotic, we find a channel called Schlemm's canal, which is of importance, as we shall see hereafter. It holds and is in relation with a plexus of veins, and I show you here in this diagram its position. I desire you to notice here on the diagram the point relatively at which the optic nerve enters the eye. I shall have to refer to it again; it is of special interest in the fact, that at

that point of the eye there is no visual perception. This is what is known as "Marriotte's blind spot." I shall again refer to it when we come to speak of the retina.

The cornea, which forms the anterior one-fifth of the external coat, is placed between two structureless membranes; anteriorly we have that of Reichert, and posteriorly, the membrane of Descemet, and the latter is of interest in playing an important part in deep ulcerations of the cornea. Both Descemet's and Reichert's membranes are covered by an epithelium; that of the latter is continuous with the conjunctival. We have thus five layers to the cornea: first, the epithelium externally; next, the membrane of Reichert; third, the substance proper of the cornea; fourth, the Descemet membrane; and fifth, the epithelium. The cornea is about a millimeter in thickness, a little increased at its margin. It is set, as it were, in the sclera, something like a watch-glass; the scleral tissue, however, projects further anteriorly than posteriorly, and further above than below. The structure of the cornea proper is laminated—"the lamina being composed of delicate fibers, and being so arranged as to inclose numerous interspaces or cavities, which contain nucleated cells, and which communicate freely with each other." These are necessary for the circulation of nutritive juices, for, as you are aware, in the healthy cornea, no blood vessels are found. The nerves are very numerous, and they ramify in the deeper layers of the epithelium, and in the cornea proper. The plexus formed by the nerves is of exceeding fineness, and quite intricate.

Ordinarily it will be thought that the cornea possesses perfect transparency, but if we examine by oblique light (which we shall explain hereafter) we can discover somewhat of its fibrous composition. About fifty years of age, and often later, we find a crescent, or sometimes a ring, of fatty degeneration of the cornea, nearly bordering the sclerotic margin. This, the so-called arcus senilus, is sometimes seen, though rarely, at a much earlier age, and can hardly be said to be an indication of fatty degeneration elsewhere, though it is so generally believed.

The choroid is the tunic next in contact with the sclerotic, and it lines the posterior three-fifths; anteriorly it merges in the ciliary processes. This coat is made up, in the main, of vessels with delicate fibers and connective tissue, and it is well furnished with nerves. In the interspaces of the stroma dark pigment cells abound.

Anterior to the equator the choroid is separated from the sclera, and is fitted to a series of elevations and depressions of the ciliary processes, and one of the main components of these processes is the ciliary muscle. The ciliary nuscle, a section of which I show you in this drawing, is the muscle which produces the accommodation of the eye, as it is called: that is, it changes the curvature of the lens, so as to enable near objects to be focused on the retina. It is of unstriped muscular fibers, and posteriorly these fibers radiate parallel to the cil-

iary processes, and anteriorly the fibers are in a circle. In eyes of short axis the circular fibers predominate, and the meridianal fibers where the opposite condition is found.

Anteriorly from the ligament pectinatum, and posteriorly from the margin of the anterior borders of the ciliary processes, we have the iris. It is made up of muscular fibers, (and there are two directions to these, radiating and circular,) and vessels and nerves, and its posterior surface is covered by a close layer of pigment cells. At birth, except in albinos, the anterior surface of the iris is blue, and this color does not depend upon pigment, but what is called in optics difraction.

The nervous supply of the iris is of interest. It will be well, however, to remember, on this point, mainly, that the circular fibers are enervated by branches from the third pair, while the radiating ones are supplied from the sympathètic.

The retina lines the posterior portion of the eye, and is in contact with the choroid. The nerve portion of the tunic ends at the posterior margin of the ciliary processes, at what is called the ora serrata. (*Here were described the layers of the retina from the diagram, pigmented epithelium, layers of rods and cones, layer of nerve fibers; also, the macula lutea, and its central depression, the forea centralis, the optic disk, and vessels of the retina.*)

The crystalline lens is, as is known, a bi-convex body: it is nine millimeters in diameter, and three or four in thickness. It is inclosed in a homogeneous capsule, and fixed vertically from near the anterior margin of the ciliary processes, the suspensory ligament of the lens only intervening. Its substance is laminated, and the laminæ are denser internally than near the surface. All the laminæ are made of segments, and the whole lens has been compared to the segmentary make of the onion. The lens becomes harder as age advances, and then often is of an amber tint. The capsule is a structureless membrane similar to that of Descemet. The zonule of Zinn, as it is called, is the suspensory ligament of the lens, and is continuous with the membrane of the vitreous and the external or limiting membrane of the retina.

This suspensory ligament is of great interest as being the medium through which action is had to produce a change of curvature of the lens, when accommodation is had for near objects.

The anterior and posterior chambers are filled by the aqueous humor, and the cavity of this humor is united posteriorly by the zonule of Zinn, and by the anterior capsule of the lens. The iris, when the pupil is small, rests its pupillary margin on the lens. The aqueous humor is very nearly pure water, containing no albumen and but a mere trace of salts.

The vitreous humor occupies the space posteriorly to the lens. It is possible by injection to show the existence in it of the hyloid canal

from the disk to the posterior surface to the lens. The vitreous is contained in a membrane so fine that it is difficult to demonstrate it. It consists mainly of water and some mucin. The fibers which support the vitreous are so delicate that their refractive power must be similar to the vitreous proper.

The vessels and nerves supplying the eyes need a few words here, as they have an interest both from a physiological and from a pathological standpoint. I shall however be as brief as possible, and avoid taxing your memories with troublesome details.

The arteries are the short and long ciliaries, the anterior ciliary, and the arteria centralis retina. The short ciliaries, from twelve to fifteen in number, arise from the ophthalmic, or one of its branches. They surround the optic nerve, pierce the sclera near it, and supply the choroid and ciliary processes.

The long ciliaries, also from the ophthalmic, two in number, pierce the posterior part of the sclerotic, and run between that membrane and the choroid to the ciliary muscle. They divide into two branches, which go to form an arterial circle around the outer circumference of the iris. Branches from this form a second circle near the margin of the pupil.

The anterior ciliary arteries, about six in number, also from the ophthalmic, pierce the eyeball just posterior to the cornea, and go to nourish the ciliary processes, while some of its branches join the larger vascular circle of the iris. The arteria centralis retina, from the ophthalmic, pierces the optic nerve and enters the eye with it, where it divides at once in from two to five branches, which are distributed to the retina. The veins accompany the arteries. The vessels of the retina are of special interest in the diagnosis of deep-seated eye troubles.

The veins other than the retinal, generally four in number, are made up of branches from the choroid. They emerge from the sclerotic midway between the cornea and optic nerve, and join the ophthalmic vein.

In addition to the optic nerve, the eye receives sensory branches from the first division of the fifth pair, and motor from the third, fourth and sixth nerves; the three main branches of the first division of the fifth, the lachrymal frontal and nasal, and send cutaneous branches to the eyelids and probably to the cornea, though this latter tunic is mainly supplied from the fifth pair.

The ciliary ganglion gives off about ten branches—the short ciliary, which, with the long ciliaries from the nasal, are arranged above and below the optic nerve; they perforate the sclerotic in a circle near the optic nerve, and pass forward between the choroid and sclera, giving off branches as they go until the ciliary region is arrived at, and here they form a plexus from which branches go to supply the ciliary muscles, cornea and blood vessels.

The ciliary ganglion receives its sympathetic root from the cavernous plexus, and also receives branches from the third and fifth pairs. Now these ciliary nerves, or at any rate those of them which go to the ciliary region, are those which probably transmit the *sympathetic influence to the point of inflaming a sound eye when its fellow is injured* in the ciliary region, and they are of the utmost interest pathologically. As to which nerve transmits this influence, it is difficult to say, resting as it does between the fifth and the sympathetic. The motor component of the ciliary nerves may be eliminated from the transmitting cause.

It will be observed that scarcely an outline of the anatomy has been given, and that the appendages to the eye, including the muscles, have not been mentioned. These have been purposely omitted, and only those of the more essential points alluded to.

In briefly considering the eye *physiologically*, we may say that it is a sphere which moves upon a central point for each motion in its different directions. These motions are brought about by the four recti and the superior and inferior oblique muscles. The internal recti, it is well to remember, are normally the strongest of the straight muscles, and aid in vision of near objects by converging the eyes upon such objects.

The eye has been likened to a camera, the retina taking the place of the ground glass. As is well known, it is upon the retina that images of objects are formed, and it is scarcely necessary to add that these images are inverted. Now in order that an object should be perceived distinctly, several conditions of the eye are necessary. The dioptic media must be clear; the refraction in the eye must be normal; the image must be brought to a focus at the retina, and the receptive and transmitting elements of the eye normal. These conditions existing, we have, as we have said, formed upon the retina a distinct image of any object, and we have its perception through our intellectual faculties. The fact of the image upon the retina being an inverted one, has given rise to much discussion as to how it is perceived in its erect position. The explanation may probably be found in the fact that "It is not the retina as a whole organ which perceives, but that each individual bacillus or set of rods and cones in the retina perceives its own share of the picture formed upon the general surface," and as the bacilla "stand radially upon the inner aspect of the posterior hemisphere of the eyeball, that each will see its own part of the object in its proper place." (Diagram was shown on board.)

It will be well here to consider the optic and visual axes. These were formerly supposed to be identical, but this is an error. The anterior extremity of the optic axis corresponds to the apex of the cornea, and its post-extremity at a point between the optic nerve and the yellow spot, as I here show you on this diagram.

The visual line or axis is from the image, through the nodal point

(which I show you here) to the image formed at the yellow spot. Now by looking at this diagram, you will observe that these lines, which show the optic and visual axis, produce quite an angle, known in ophthalmology as the angle alpha. The bearing of this angle is important; for it is found that in high degrees of myopia the angle alpha is much diminished, and when myopia of high degree exists in the young, we are very apt to have divergent strabismus. You can readily see why this should be.

We will now describe the *means* for investigating the eye and its diseases; but before going into instrumental appliances for the purpose, we will allude to the information gained by unaided sight and touch.

Of course you are all familiar with the manner of everting the upper lid for the purpose of examining its surface, and but one hint is necessary there, and it is this: always direct your patient to look well down, and then with a pencil or something of that kind to dimple it, the lid may be readily turned. The lower lid need only be depressed for viewing its inner surface. When there is marked photophobia, and a full examination of the eyeball is necessary, a pair of lid-retractors is essential; but of course they must be used with care.

By touch, the degree of intro-ocular tension is ascertained. This is done by directing the patient to look downwards, and then, with the pulp of the index fingers alternately pressing, the degree of tension is approximated. Both eyes should be compared. This examination has an important bearing, for in glaucoma, in which the increased tension is the essence of the disease, its destructive effect on the retina is well known. The tension of the eyeball is recorded, Tn if normal, or T_1 if slightly increased; T_2, T_3, T_4, if the ocular tension is greater. Should the tension be subnormal, then record it $-T_1$, $-T_2$, etc.

Oblique light: this is had by condensing the rays from a lamp with a lens of about three or four inches focus, as I show you here. You can often discover small foreign bodies by this method when otherwise difficult to find, and also small corneal opacities and ulcers, and it will be found very useful in examining the conjunctiva, cornea, iris and lens.

I will now describe the ophthalmoscope and its applicatioh, and I shall do so as plainly and briefly as possible, and avoid unnecessary details. (*First were shown the instruments, and inverted images, the appearance of retina, optic disks, and yellow blood vessels.*)

The use of the ophthalmoscope should be familiar to every practitioner. It is often an aid in diagnosis of brain trouble; and chronic Bright's disease has frequently been discovered by the recognized change in the fundus of the eye.

We have in the eye practically a perfect optical instrument, though it is not quite so. Spherical aberration is diminished by the iris, which acts as a stop acts in the microscope, and the chromatic aberration by

the different densities of the dioptric media. The eye is said to be emmetropic, *em*—within, *metron*—measure, and *optomia*—I see, when rays which are parallel (of course there is in reality no such thing in nature as exact parallelism of rays of light) are refracted to a focus at the retina; the accommodation, as it is called, being relaxed. When such a condition exists, we say an eye is emmetropic. It may be well here to digress for a moment to recall to you the law of refraction. (The laws of refraction were explained.)

Now this refraction to a focus at the retina by the dioptric media of the eye, takes place, as we have said, in the emmetropic condition, only when rays from objects are not far from a parallel. Should they be divergent, as you see in this diagram, an increased refraction is necessary in order to focus these rays on the retina. Now the increased refraction is brought about by an increased curvature of the lens, and this is called accommodation, which has been already incidentally referred to, and it is accomplished by the action of the ciliary muscles. As to exactly how the ciliary muscle produces change in curvature, is not perfectly understood, but it probably occurs from the contraction of the muscle, removing the tension of the zonule of Zinn, and the lens then by its inherent elasticity increases its curvature, and of course its antroposterior diameter. It may be well to again note here that the ciliary muscle is enervated by a branch of the third pair, and that both it and its co-worker, the branch from the same source which goes to produce contraction of the pupil, are temporarily paralyzed by the instillation of atropine. With paralysis of accommodation, we have of course imperfect vision for near objects, and in the application of atropine to the eye, it is advisable to inform your patients of this temporary difficulty, or they will think that they have been made permanently worse by the application.

When the eye has assumed its greatest refraction, it is said to be accommodated for its nearest point of distinct vision; when relaxed, it is adjusted for its far point. Now, of course, the power of the ciliary muscle is limited, and the near point cannot be approximated closer than a fixed distance from the eye. In the emmetropic eye of the young, the near point lies at about three or four inches from the eye, and this is constantly receding gradually after about twelve years of age, and the range of accommodation continually lessens from that time. This, however, rarely causes inconvenience until the age of forty years. This condition is brought about by the decreasing power of the ciliary muscle, and we have the condition of presbyopia from *presbus*—old, and *ops*—the eye. Donders considers that presbyopia may be said to exist when the near point has receded to eight inches from the eye.

The range or extent of the accommodation has one other important element in it, and that is the convergence of the eyes upon a near

point by the internal recti muscles. Frequently, in debilitated persons, these muscles are so weakened that continued vision at near points is impossible, and this condition is one form of muscular asthenopia.

The acuteness of vision is now generally ascertained by ophthalmologists, in ordinary cases, by examination with test types or test objects, where the patient is able to read.

The acuteness of the visibility of an object depends not only upon its size, but also upon its distance; and these two elements determine the visual angle; and "the visual angle is that which is formed between two lines drawn from the extremity of an object to the optical center of the eye, a point lying a little behind the crystalline lens." Now in order that distinct vision may be had, the image must be of a certain size, and the object producing it must be seen under a certain visual angle, and it has been determined by experiment "that square letters, which have limbs and subdivisions equal in breadth, one-fifth of the height of the letters, and which are so placed that the height is seen under a visual angle of five minutes, should be distinctly legible to the normal eye." Upon this principle Dr. Snellen made his test types, which I show you here, and these are what ophthalmologists generally use for testing vision. (*Explained types and figures.*)

When acuteness of vision is normal, that is, when at twenty feet we can plainly see the lower line of letters, the vision is said to be $\frac{20}{20}$, and is recorded thus, $V=\frac{20}{20}$. If only the larger letters can be read, then it will be $\frac{20}{40}$, $\frac{20}{100}$, $\frac{20}{200}$, etc. It is well to let this practical expression of the acuteness of vision remain unreduced to its lowest terms; by so doing, we convey the idea that the examination is made at twenty feet from the types, and this represents the numerator of the fraction, the distance at which the figure should be seen being the denominator. Should none of the letters be made out from the usual acuteness being much reduced, we generally then ask the patient to try and count fingers, which should be placed over some dark object, such as the coat; and the record of this acuteness of vision would be "counts fingers at so many —feet." Each eye, in testing vision, should be examined separately, with its fellow closed, and the result for each recorded.

The field of vision should be examined in the way I now show you. (*Here was shown the mode of examination of the field of vision.*)

Having explained what the emmetropic eye is, I will now speak of the ametropic conditions, and these are where the dioptric media of the eye are in such an abnormal condition that parallel rays are not focused on the retina when the eye is relaxed.

They are myopia, from the Greek words signifying I close an eye; hypermetropia, from the Greek words signifying above—in excess, measure and vision—that is, beyond the measure of vision; and astigmatism, from Greek words signifying a privative and a point—a state

of different degrees of refraction in different meridia of the eye. These I shall now describe.

Myopia, written M., or what is a better term, Brachymetropia, from the Greek of short, and measure, and eye, depends upon either the eyeball having too great an ante-posterior diameter, or the state of refraction, when accommodation is relaxed, being too high, or both. Now, with either or both of these conditions existing, parallel rays are reflected so that, instead of focusing on the retina, they come to a point in front of it, and then, proceeding, we have what are called differsion circles, in place of a sharp, clear image projected on the retina.

Of the two elements which produce myopia, that of an abnormally long anteroposterior diameter is most frequently found. And this extension occurs directly at the posterior portion of the globe, and frequently gives rise to a more or less ovoid bulging, the so-called posterior staphyloma, which is accompanied by thinning and atrophy of the choroid and sclerotic; and even when this unfortunate condition does not exist, we often find on ophthalmoscopic examination a congested optic disk and retina; and this is the more especially so if the eyes are overworked by artificial light. It may be readily seen, too, that long-continued looking at objects at a near point, especially in the young, will readily produce, in time, myopia. For persons continually accommodating for a near object, the lens must necessarily be increased in its curvature; and when relaxation takes place, it does not fully return to its original shape. This, if continued, induces the conditions in which the lens refracts too highly, and we have, in fact, myopia; and I would have you remember that a myopic eye of a moderately high degree is to be considered a diseased one, and this is especially so if the myopia increases continually, producing the form known as progressive myopia. The bulging and atrophy of the coats I have mentioned, and which takes place in post-staphyloma, predispose, and may directly cause great loss of acuteness of vision, and worse, sometimes detachment of the retina. Much good may be done by you in looking into this matter in the public schools of your section. The principle involved should be explained; the proper distance between the scholars' eyes and their books should be insisted on, and strictly maintained; and this rapidly increasing eye trouble may be prevented. Dr. Cohn, in Germany, examined the eyes of over 10,000 children, and he states that he could distinctly trace the increased proportion of myopia according to the construction of desks and lighting of the school-room.

One other cause for myopia may be mentioned, but I will not dwell on it. It is spasm of the ciliary muscle. This, when known, may be relaxed by instillation of atropine, and then the myopia is diminished. It is generally not of long duration.

The ophthalmoscopic diagnosis of myopia is very interesting, and

can by practice be made exact. In measuring either hypermetropia or myopia by this method, we make use of the erect image, and it is necessary to apply the instrument closely to the patient's eye; then, throwing the light to the fundus, we select a vessel running to the yellow spot and near that point. Now if the observer is emmetropic, and he relaxes his accommodation, the patient doing so also, that is, if he arranges his sight for distance, he will, if the observed eye is myopic, have an indistinct image of the retinal vessel I have mentioned. If now the observer puts behind the mirror a corrective lens, so as to obtain a clear, well-defined image of the vessel, and he must change the lens until this is arrived at, this corrective lens will then represent the degree of myopia existing. For instance, the observer being emmetropic, can see most clearly and sharply the fundus of a myopic patient with a concave lens; the patient has myopia $\frac{1}{10}$; that is, a ten-inch concave lens will correct his myopia. I say a ten-inch, but that is not exactly correct, for allowance must be made for the distance of the ophthalmoscope from the patient's eye—generally about one inch, in this kind of observation. The patient then, in this case, would need a nine-inch glass of negative focus. It may be well to digress here, and say that lenses are numbered according to their focal distance. A convex lens, if numbered 10, should bring parallel rays to a focus at ten inches. So with concave glasses, only there it must be remembered that it is a negative focus, and their distance is calculated by measuring back from the point where the extreme rays pass through the lens, emerge, and take the right line they take in their divergence, and carry that back to a point where they would cut each other.

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We can, of course, readily measure myopia with test glasses, and this is most generally done.

Hyperopia, or, more correctly, hypermetropia, (written symbolically as H,) may be roughly explained as the opposite of mytropia. (*Here were explained, by diagram, manifest and latent hyperopia; their effect on vision; how measured by ophthalmoscope and lenses; the necessity of correcting by lenses, to do away with straining of accommodation; its connection with convergent strabismus.*)

ASTIGMATISM.—This anomaly of refraction is due to a different degree of curvature in the different principal meridia of the eye.

(*The result of this condition was shown by diagram.*)

Astigmatism is recognizable by the ophthalmoscope, but a full and detailed explanation would be necessary in order to enable you to apply it, and I omit the process here.

Astigmatism is divided into regular and irregular, and the latter cannot possibly be corrected. The regular astigmatism is divided into: 1. Simple astigmatism; 2. Compound astigmatism; 3. Mixed astigmatism.

Simple Astigmatism—is where in one meridian there is emmetro-

pia, and in the other either myopia or hypermetropia. It is divided into: 1. Simple M. A. (written Am.), in which myopia exists in one principal meridian, and emmetropia in the other; 2. Simple hypermetropic astigmatism (written Ah.), and in this there is hypermetropia in one principal meridian, and emmetropia in the other.

Compound Astigmatism.—In this form either myopia or hypermetropia exists in both principal meridia, but varying in degree. And there are two forms of it: compound myopic astigmatism (written M.+Am.), myopia existing in both principal meridia; 2. Compound hypermetropia astigmatism (written H.+Ah.), hypermetropia existing in both principal meridia.

Mixed astigmatism, which is rare, is a condition where one principal meridian is myopic, and the other hypermetropic, and we distinguish two kinds: mixed astigmatism, with predominant myopia (A.H.h.) and mixed astigmatism, with predominant hypermetropia (A.H.m.).

Now the regular astigmatism is corrected by lenses made of sections of cylinders, the axes placed in such a position as to render refraction of the principal meridia similar.

For the recognition of astigmatism we use ordinarily radiating lines, such as I show you here. (*Lines shown, and use explained.*)

Now, as fitting lenses to correct regular astigmatism requires a thorough understanding of the matter, and as its full explanation would be necessary for the purpose, I have thought that, from the time it would occupy, it would be well to omit this. And, moreover, the possession of a set of test lenses, such as I show you here, would be necessary for you in undertaking it, and, except in large cities or towns, the purchasing of such expensive appliances would scarcely be warranted. Should any of you, however, desire an explanation of their application, it would give me much pleasure to describe it hereafter.

I may again repeat, that the condition known as irregular astigmatism, in which there is no system as to the direction of the difference in the refractive curves, cannot be corrected by lenses.

We come now to briefly consider some few of the more frequent diseases of the eye, and I shall only refer to those which seem to me to be most commonly misunderstood as to diagnosis, and which are not seldom erroneously treated.

Of the diseases of the conjunctiva may be mentioned phlyctenula conjunctivitis, often called conjunctival herpes, and this is confounded often with a more serious condition, true herpes corneæ, which latter depends upon some lesion in the casserian ganglion of the same side. Phlyctenular conjunctivitis occurs most frequently in children, and consists of the formation on the conjunctiva bulbi of one or more small vesicles, which, by oblique light, it will be found are very superficial. The vesicles, which are pellucid, are filled with fluid, and in from six to eight days these burst, and leave a small ulcer. This ulcer

generally heals, but more vesicles will form in time, if the same non-hygienic conditions continue. Local treatment is scarcely ever required. Should the vesicles occur in the cornea it would be well to drop into the eye, every few days, a weak solution of atropine, of about one grain to one ounce. In very young children it is better, when atropine solution has to be applied, to just touch the inside of the lower lid with a camel-hair pencil, dipped into the solution. The risk of poisoning will then be avoided.

The constitutional treatment is essential. Build up the patient, and keep him in the open air. I have found cases which I believed were caused by the depressing influence of poor ventilation, at the high school in Leavenworth. My treatment was simply removing from school for a time, and exercise in open air.

Ophthalmia neonatorun will be readily recognized, but is often maltreated. As a rule, treatment should consist of applying daily to the averted lids a five-grain solution of nitrate of silver, with a camel-hair pencil, and washing away at once any surplus with the same pencil cleansed in water; keeping the pus washed out, by frequently throwing, very gently, a small stream of tepid water between the lids. If ulceration of the cornea has occurred, atropine solution should be applied, with the precaution I have previously mentioned. But in every case care should be had to prevent any excess of the silver solution from remaining on the lids, and being carried to an irritated or ulcerated cornea. If the disease has commenced in one eye, and the other is uninvolved, the latter should be closed by having placed over it a compress of picked lint, so as to fill the depression of the orbit, and this retained by adhesive strips.

Gonorrheal ophthalmia is very destructive, and needs vigilant treatment. When first seen, a weak solution of nitrate of silver may be brushed over the everted lid, and compresses of small cloth, kept on ice, and continually applied to the eye. Atropine instillations if the cornea becomes involved, and if the conjunctival swelling is sufficient to threaten sloughing of the cornea a division of the external canthus with scissors, should be resorted to, to relieve it.

The so-called glanular ophthalmia, which is generally correctly recognized, is often incompletely treated. The local applications, in the chronic form, should be by lightly drawing over the everted lids a smooth crystal of the sulphate of copper, and, before the lid is replaced, washing away any surplus with water, by the aid of a camel-hair pencil. This should be repeated daily until a cure is had. The constitutional treatment is to improve general health.

Phlyctenular corneitis needs little local treatment. Should there be any photophobia, atropine should be used. Attention to general nutrition is very important here.

Ulcers of the cornea require some attention. They are serious often

in their termination, and are very apt to be so when improperly treated. They may commence as phylctenulæ, and a little ulcer left by these, not healing, but going on to further ulceration, and ulceration from any cause is the more serious the deeper it proceeds.

I shall call your attention only to some of the more dangerous forms of this lesion of the cornea; and, first, to the sloughing ulcer, or ulcer serpens of Professor Saemisch. This begins without any discoverable cause. Its peculiarity is that it spreads in one direction, so that the loss of substance is bounded on one side by a vertical wall, while there is a sloping of the other edge, and it is in this latter direction the spreading takes place. The danger is perforation, and in order to diminish the tension of the eyeball the best authorities recommend, if perforation is threatened, either to do paracentesis cornea, or, better, an iridectomy, which will permanently reduce tension. Locally, atropine should be used, in order to put at rest the iris, which is teased, as it were, by reflected irritation; and warm-water fomentations should be made. Now as to these fomentations to any case of ulceration of the cornea, I would urge that they are important in the treatment, and their object should be understood. It is to increase the nutrition of the cornea, to arrest the destruction going on, and to bring about a proper condition of repair of the lost tissue. We can, by their use, aid in increasing the blood-flow, and often, after their application has been continued some time, we will observe a blood-vessel forming in the clear portion of the cornea, and running close to the ulcer. When this is produced we may generally feel quite safe as to the healing. The fomentations should be applied once or twice a day, or even oftener, for two hours at a time, and the effect well watched.

The ring-shaped ulcer is another form, and it produces a narrow groove around the margin of the cornea. It is quite uncommon, but it should be recognized. It generally occurs in elderly people. The treatment usually successful, is, paracentesis of the anterior chamber, and that is done either by a cataract needle, or a broader one of lance-head shape, having a shoulder or stop on it, which will prevent the instrument being carried in too far.

One other form of ulceration needs mention, and that is the central ulceration of the cornea. It generally is found in persons poorly nourished, is quite small, but acutely painful, and the irritation of the iris and ciliary region considerable. The treatment is to increase the general nutrition, and locally, instillations of atropine solutions, and warm-water fomentations. It is well to inform your patient that this form of ulcer is serious, and will, at best, take some time in cicatrizing, and if in the old, will leave a permanent opacity or leucoma. In fact, opacities of the cornea, from any cause, are scarcely ever removed, except they occur in young children, and of this fact it is always well to inform your patient.

Iritis is frequently improperly treated. There are, as you know, several forms of it; but I desire more especially to refer to the treatment. Perfect rest should be enjoined, and if the case is a severe one, it should be placed in a dark room. Instillations of atropine should be made. This, if done early, will prevent the adhesion of the iris to the lens, which will probably occur, if the iris is not carried away from its contact. I have previously spoken of the use of atropine, and it may be well here to give some definite directions as to how it should be used, and in what strength. For the treatment of iritis, or in any condition in which prompt and marked effect is desired, a strong solution of four grains of the sulphate to the ounce of distilled water should be used. The solution ought to be filtered. For use in dilating the pupil, for ophthalmoscopic examination, or for the purpose of testing anomalies of accommodation, one grain to the ounce will be sufficient. For children, the weaker solution only should be applied. These solutions, it must be remembered, ought not to be used in any excess; a drop, or at most two drops, placed with a dropper, such as I show you, in the lower lid, will generally suffice; though in cases where a rapid effect is desired, one drop, and repeated every half-hour until four or five drops are used, is generally sufficient. In infants, I would again urge, where atropine is necessary, simply painting the inside of the lower lid with a weak solution. Some patients are so susceptible to atropine, that even with all care there will be dryness of the throat, showing constitutional effect of the drug; and the local irritant effect, occasionally met in some eyes, is such as to preclude its application to them.

To return to iritis. The effect of the atropine in this disease is three-fold: (1) Dilation of the pupils is had, and its margin is removed from the lens, so that no adhesion can be formed with it, and occlusion of the pupil cannot take place; (2) Rest of the iris is had; and (3) Ocular tension is diminished. In iritis, from syphilis (and this is a frequent cause), the usual constitutional treatment, in addition, is necessary. Generally, idiopathic iritis can be cured by the local treatment I have given. It is well to inform your patient that iritis, whether it be idiopathic, rheumatic, or syphilitic, may recur. In traumatic iritis, where the iris is prolapsed, it is generally better to excise the prolapsed portion, give the atropine solution, and apply a compress of lint over the eye and bandage.

Glaucoma is no longer spoken of as it was formerly, a condition in which the doctor saw nothing, and the patient less, but is now quite well recognized and understood. The term glaucoma arose from the greenish reflex which the pupil gave, but it expresses nothing of the actual condition of the disease. "It is now used to cover the whole series of morbid changes which are produced by a fullness or tension within the eye, and we find it necessary to qualify it by adjectives ex-

pressive of different periods of duration, such as chronic, sub-acute, acute, and fulminating." As to the increased tension-producing cause, we have no positive knowledge; the secretion of the aqueous and vitreous humors is regulated by the nervous influence, but as to what change takes place in the nerves to produce an increased amount of these humors, cannot be decided; or, whether it is that there is no increased quantity formed in a given time, but a decreased amount, or entire absence of absorption of that secreted, is unknown. But from late researches it would seem the latter, for it has been found that there is, at any rate, some interference with or occlusion of the lymph canals of the eye, and that the proper integrity of these safety valves, which regulate the taking up of excess, is not maintained. It has been found that the Schlemm's canal, which I now show you, is occluded, and the space of Fontana obliterated. Though, since attention has been called to this, glaucomatous eyes have been dissected, and the condition I have mentioned was absent. But it has been inferred that some of the posterior lymph canals relating to the vitreous were then at fault—that the difficulty would always be found in these canals, either anteriorly or posteriorly, or both.

The divisions of glaucoma into chronic, sub-acute, acute, and fulminating, is satisfactory. Practically the only difference between them is, that in the chronic and sub-acute the disease remits in its course, while in the acute and fulminating there is no remission. The disease, if left to itself, will ultimately destroy vision by destruction of the nerve elements of the retina, which is due to pressure, and while this result may not be reached in the chronic and sub-acute form for months, in the acute not many weeks, or in the fulminating not many hours may elapse before sight is hopelessly gone. From this fact you will see the necessity of recognizing the disease readily. The diagnosis, as a rule, in most of the forms of the trouble, does not offer much difficulty.

The essential element of the disease is increased intra-ocular tension, and it is this abnormal tension which produces the atrophy of the nerve elements, by direct pressure upon them. The method of ascertaining this tension I have given. The increased pressure occurs in all forms of the disease; but it must be remembered that in the chronic and sub-acute there are intermissions of the tension, and the intervals vary in each case. The risk from this fact is obvious. The first indications of trouble which the first two forms of glaucoma give are pain and diminished vision, and as the disease occurs generally in a patient after 40 years, he may think that his eyes only need spectacles; but, the trouble continuing and increasing, he goes to the physician, and the latter will find, on examination, the tension of the eyeball increased, the vision subnormal, and its field much diminished, especially its upper and inner portion. Examination with the ophthalmo-

scope will show, in the early stages, the vessels of the retina full, and it will be seen that these vessels are curved at the margin of the optic disk, as I show you on the board. And this condition increases until, late in the disease, the vessels seem to dip over into a cup, for the disk has become cupped by pressure, so that the tissue of the optic nerve at its entrance is pressed backwards, this being the most yielding portion of the globe. Later, there will be found pulsation of the veins, and afterwards of the arteries.

After a time the pressure and other symptoms in the chronic and sub-acute forms may, as I have told you, remit, to again increase, and this continues until we have a condition of acute glaucoma, and the symptoms of the latter are similar: only then there are no intermissions. and the other troubles are more marked and the results more rapid. In the fulminating form we may have all the changes, to a complete loss of vision, going on within a few hours.

Now the only cure for this disease is to reduce intra-ocular pressure; and that is done by iridectomy, which consists in the removal of a small portion of the iris. We are indebted to Graefe for the discovery of this means, which has already saved thousands of lives Recognizing that the essence of the disease was increased intra-ocular tension, he reflected as to the best method of permanently reducing it, and remembering that where he had to do iridectomy for other causes, that the eye tension had been reduced, he thought that here the result would be similar, and he determined to try it in glaucoma. The result of the observation, and the application of the clear thought of this wonderful man, and his clear, inductive reasoning on this point, is one of the greatest triumphs of our art, and it is now yielding blessings and keeping light in thousands of eyes; and thousands more to come, and yet unborn, will reap the benefit.

The operation of iridectomy requires care, but it is not difficult with practice. It is done with a triangular-bladed knife, such as I show you, and this is entered in the cornea, near the sclero-corneal margin, care being taken that neither the iris nor lens be injured. The knife is carried in far enough to allow a portion of the iris to be withdrawn. Should the iris not prolapse after the withdrawal of the instrument, a small pair of iris forceps is passed carefully through the incision, and the iris seized and carefully brought out, and is cut off with a pair of scissors. The operation is generally done from above, though it may be inwards, downwards, or outwards. The utmost delicacy in all the maneuvers is necessary. After seeing that no portion of the iris is left, to be compressed in the lips of the wound, and no clots, the eye is closed, and a compress bandage is applied. Precaution should be taken, in the first incision, that the aqueous humor, of which a portion always flows away, escapes but slowly, for, if it be otherwise, the sudden diminution of pressure may result in rupture of the small vessels of the

retina. The compressive bandage must be renewed in twenty-four hours, and an examination of the eye had. Atropine should be used daily until the wound is healed.

Within a short time it has been found that esserine, the active principle of the Calabar bean, which was known to contract the pupil, will also diminish intra-ocular tension, and it has been tried with success in some cases of glaucoma. It will be seen by the diagram, that if the obstruction of Schlemn's canal is a part of the cause of glaucoma, anything which will carry away the iris from the periphery may have the effect of relieving this obstruction, and the failure of the esserine, when it has failed, in many cases may be due to the obstruction of the lymph channels posteriorly. It will not do, therefore, to rely on this drug. The operation of iridectomy is the only reliable resource we have for permanently diminishing the intro-ocular pressure, and it should be resorted to, even when the patient has neglected to present himself in time, and his sight gone, in order that the dreadful pain peculiar to the disease may be stopped.

Sympathetic ophthalmia is a disease which I am convinced is but little understood by general practitioners, though it is of the utmost importance, and I desire to call your attention to it, but it will only be necessary to say a few words in regard to it, having already alluded to it in speaking of the anatomy of the eye.

When, from an injury, or from active disease of that part of the eye known as the ciliary region, (which is situated just behind the cornea,) had, observation has shown that there is a peculiar liability of the other eye becoming involved, and what is called sympathetic inflammation being set up. Should this commence, the hitherto sound eye will be lost. This sympathetic trouble is most likely to occur from injuries in the region I have mentioned, and sometimes it will occur even when the injury is very slight.

Should you have cases in which there are wounds in the ciliary region, watch them closely, and if the injured eye at this part is *painful on pressure, urge the immediate removal of the eyeball.* If the patient refuses—and he generally will—and returns to you after a time, with the sound eye now involved, it is now, in all probability, too late to operate, and the question may arise, knowing that the sympathizing eye will undoubtedly be destroyed, as to whether the injured one should then remain, as possibly it may not be altogether useless, though its heretofore sound fellow will undoubtedly be lost. No eye has ever been saved when the sympathizing trouble has begun in it. I saw one case at Professor Knapp's clinic, in New York, in which this disease was developed nearly ten years after the injury—ablation of the eyeball having been rejected by the patient.

I had intended to refer to other diseases of the eye, but this paper

has already exceeded in length my original limit, though I have only given a mere outline of the few subjects touched upon.

Many diseases, many important points, and many operations, which I had hoped to refer to, I have been unable to mention, and I have only alluded to a few of those troubles which are more frequently met with. But I have, I hope, in a round unvarnished way, called your attention to these few in such a shape that it may aid and interest you in studying the subject for yourselves.

You will find, I assure you, great satisfaction and assistance in the use of the ophthalmoscope in general practice, and if any of you should hereafter take this subject for your study, I shall believe that the object of this paper has been attained. I would add, that it has been prepared only during the spare moments afforded in the active work of an active practice, and I would offer this fact as an apology for any and all its shortcomings.

TRANSACTIONS, 1879.

ATCHISON, KANSAS, May 13, 1879.

The Kansas State Medical Society met at Corinthian Hall, Atchison, May 13, 1879, at 7½ P.M., and was called to order by the President, Dr. C. C. Furley.

The Mayor of Atchison extended the hospitalities of the city to the Society, and introduced the Hon. B. P. Waggener, who delivered the formal address of welcome. The President of the Society, Dr. Furley, responded briefly, and delivered the President's Address, which was referred to the Committee on Publication.

Dr. Sinks then delivered the Public Address, which was also referred to the Committee on Publication.

On motion, the reading of the minutes of the last meeting was dispensed with.

During the session, the following members were present: Drs. Abdelal, Adams, Baldwin, Brown, Bell, Boyd, Cochrane, W. B. Carpenter, J. M. Carpenter, Furley, Fryer, Gough, Gephart, Gish, Haldeman, Hepler, Harvey, Haller, Hannawalt, D. C. Jones, Johnston, Linley, Lanphear, Leigh, Lawrence, Lindner, Linn, Morris, Morse, Mottram, Miller, McMurray, Mitchell, Neely, Noland, Osborne, Sinks, Stormont, Stuart, Speck, Shean, Schenck, Slosson, D. W. Thomas, Taylor, Van Duyn, H. P. Woodward; honorary members, Drs. Halley and Todd, of Kansas City.

The Board of Censors announced a meeting of the Board at 8 A.M., and the Society adjourned to 9 A.M. on Wednesday.

MORNING SESSION.

ATCHISON, KANSAS, May 14, 1879.

The Society met pursuant to adjournment; the President in the chair.

During the session the Board of Censors reported favorably on the application for membership of the following persons, and on motion the report was accepted, and the Secretary ordered to cast the ballot of the Society for the same:

Drs. J. D. Bryan, Louisburg; S. H. Blakely, Severance; A. Morrall, Wamego; C. A. Loose, Peabody; N. T. P. Robertson, Hutchinson; S. D. Coffin, Fairmount; T. S. Floyd, Sedgwick; T. Blackwood, Clay Center;

D. W. Humfreville, Waterville; J. D. Freeman, Cawker City; J. Greene, Alma; A. C. Brown, Carbondale; R. H. Fisher, Kennekuk; F. Damour, Waterville; J. B. Cory, Wellington; W. R. Steinmetz, U. S. A., Topeka: T. L. McCarty, Dodge City; J. B. Hibben, Topeka; D. F. Ekin, Beloit; E. W. Myers, Fairmount; J. F. Jenner, St. Marys; N. Steele, Beloit; W. Manson, Burlington; W. T. Wiseman, Burlington; D. J. Ross, Oskaloosa: W. W. Murphy, McPherson; S. L. Brooking, Stanton; W. S. Tremaine, U. S. A., Ft. Dodge; E. J. Protherow, Wakarusa; J. L. Jones, Neosho Falls; R. G. Mendenhall, LaCygne; P. Daugherty, Junction City; P. P. Trueheart, Sterling; R. H. Chittenden, Cedar Point; J. Bussing, Hiawatha, W. D. Lewis, Hiawatha; P. R. Moore, Pardee; N. F. Terry, Lyons; W. E. Ashby, Quenemo; W. Street, Baxter Springs; F. F. Dickman, Fort Scott; A. P. Tenney, Atchison; W. P. Wagstaff, Hiawatha; E. R. Switzer, Salina; F. Sieber, Ellsworth; T. C. Craig, Easton; W. A. McCulley, Independence; L. D. Jacobs, Emporia; W. M. Hendrickson, Wichita; W. S. Mendenhall, Winfield; C. A. Wakefield, Eureka; S. R. Gibboney, Osborne; E. A. Dulin, Osborne; L. J. Cunkle, Madison; L. P. Ayer, Smith Center; W. Hayden. Concordia; C. Winne, Clyde; J. Z. Hills, Clyde; J. T. Shepard, Arkansas City; C. W. McHugh, Sedan; P. C. Garvin, Frankfort; W. S. Hartshorn, Junction City; J. M. Still, Eudora; John Grass, Independence; W. W. Nye, Hiawatha; E. W. Bliss, Hiawatha; V. V. Adamson, Holton; T. Milam, Wetmore; A. Y. Hanson, Circleville; J. L. Love, Whiting; T. H. Murray, Circleville; I. Mayfield, Randolph; J. B. Atchison, Troy; J. E. Gamble, Seneca; J. W. Trueworthy, Emporia; J. G. Brownlee, Fanning; W. E. Lewis, White Cloud; A. Leigh, Highland; J. P. Ball, Melvern; A. L. Fulton, Uniontown; J. N. Hannaford, Marion Center; R. R. Hunter, Gardner; G. W. Hogeboom, Topeka; C. H. Guibor, Beloit; T. M. Coleman, Newton; J. J. Maggard, Oxford; J. D. Justice, Belle Plaine; G. D. Maxson, Hartford; R. I. Webb, Nortonville; John H. Russell, Wichita; Geo. A. Scaman, Marysville; C. J. Logie, Hiawatha; W. H. Clutter, Frankfort; J. A. Maggard, Wellington; G. H. Randall, Easton; G. W. Marsters, Cawker City; J. H. Goddard, Sedgwick.

In the case of Dr. J. Cline, the report was unfavorable. The name of Dr. J. Hidden, of Centralia, was referred back to Censors, and subsequently reported on unfavorably.

Dr. D. C. Jones moved that the name of Dr. Geo. H. Picard, which was laid on the table last year, be taken up and referred to Censors.

Motion decided out of order, and the name was referred to Censors, who reported favorably, and he was duly elected.

Dr. Stormont moved that the Chair appoint a committee of seven to nominate a Board of Examiners, under the provisions of an act passed by the last Legislature, entitled "An act to regulate the practice of medicine," and that this act and the report of this committee be made the special order for 7:30 P. M. Carried, and the following com-

mittee appointed: Drs. Stormont, Fryer, Schenck, Morris, Baldwin, Shean, H. P. Woodward.

The regular committees had no reports to offer.

Special committee, Dr. Gish, read a report on Recent Advances in Chemistry, which was referred to Committee on Publication.

Dr. Fryer made a report on Recent Advances in Ophthalmology, which was referred to the Committee on Publication.

Dr. Fryer also exhibited an improvement on Sim's speculum, consisting of an attachment for retaining it in position.

Dr. J. M. Carpenter then read a paper on the Treatment of Fractures, which was discussed, and referred to Committee on Publication.

The hour of 8:30 P. M. was made special order for an address on Antiseptic Surgery, by Dr. W. S. Tremaine.

The following resolution was adopted without debate:

Resolved, That the Kansas State Medical Society disapproves and condemns the use of all copyrighted pharmaceutical preparations.

Dr. Baldwin moved that all who have papers to present to the Society hand in their names and title of papers to the Secretary this morning, and that the same be announced at the afternoon session. Carried.

Dr. Schenck then read a report on cases occurring in his practice, which on motion was referred to the Committee on Publication.

The Society then adjourned, to meet at 2 P. M.

AFTERNOON SESSION.

The Society reassembled at 2 P. M.; President Dr. Furley in the chair.

The report of the Secretary was presented, and the following report of the Treasurer:

W. W. COCHRANE, Treasurer,
In account with Kansas State Medical Society.

To balance from 1878	$38 90	
To dues for 1878	116 00	
		$154 90
By amount paid F. D. Morse	$6 50	
By amount paid W. W. Cochrane	2 00	
By amount paid for Transactions	75 00	
		83 50
Balance in treasury		$71 40

On motion, the report, together with bills of Drs. Furley, Cochrane, and Morse, and bill for printing, were referred to the Auditing Committee.

The Chair made the following appointments:

Auditing Committee—Drs. Mottram, Boyd, and Mendenhall, of Winfield.

Nominating Committee—Drs. Neely, Hannawalt, Tremaine, J. M. Carpenter, and D. C. Jones.

The following resolution was offered by Dr. Neely, and adopted:

Resolved, That any member of this Society desiring to submit a report at the next regular meeting, be requested to leave his name and address, together with the title of the subject selected, with any member of the Nominating Committee, before 9 o'clock this evening.

The following papers were then read, and referred to the Committee on Publication: Report of a case of dislocation of hip-joint, and one of aneurism of aorta, by Dr. Mottram; on use of chloroform in puerperal eclampsia, by Dr. Morris, and on parasites, by Dr. Daugherty.

Dr. Tremaine then made some remarks on stricture of the urethra. on some surgical appliances, and Lister's antiseptic treatment of wounds—illustrating it by exhibiting the materials, instruments and solutions that are used, and giving the results of this treatment in hospitals and in his practice.

On motion of Dr. Thomas, a vote of thanks was extended to Dr. Tremaine, and he was requested to prepare his paper for publication.

Some discussion followed, by Drs. Floyd, Halley, and J. M. Carpenter.

Dr. W. B. Carpenter read report of Committee on Practice of Medicine, which was referred to Committee on Publication.

The Auditing Committee reported that they found the report of Treasurer correct; and also reported favorably on the bills which were presented.

On motion, the report was adopted, and the Secretary directed to draw orders on the Treasurer for the amount of the bills allowed.

The Society then adjourned, to meet at 7½ P. M.

EVENING SESSION.

The Society met pursuant to adjournment; President Dr. Furley in the chair.

The Committee to nominate a State Board of Examiners reported the following:

Drs. D. W. Stormont, Topeka; C. C. Furley, Wichita; S. F. Neely, Leavenworth; W. W. Cochrane, Atchison; R. Morris, Lawrence; C. H. Guibor, Beloit; G. W. Haldeman, Paola.

As Alternates—Drs. W. L. Scenck, Osage City; H. S. Roberts, Manhattan; G. R. Baldwin, Ft. Scott; W. F. Osborne, Burlington; T. Sinks, Leavenworth; G. Boyd, Newton; J. Leigh, Highland.

The committee also recommended that the Board of Examiners be appointed a committee to report any desirable alteration in the act under which they are appointed, and report to the Society at the next meeting.

It was moved that the report of the committee be adopted. A long discussion of the law followed, during which it was voted that no mem-

ber should speak more than five minutes, and only once, until all who wished to speak had had an opportunity.

A motion to lay report on table was lost; also, motion postponing the consideration of it till to-morrow. The ayes and noes being called for, the report was adopted by a vote of 60 to 41.

On motion of Dr. Fryer, a vote of thanks was extended to Dr. Furley for his efforts in behalf of the law.

It was moved that the chair appoint a committee of three to present resolutions expressing the sense of the Society against the law. Carried, and the following appointed: Drs. Tremaine, Stuart, and Grass.

Dr. Haldeman then read a paper on puerperal convulsions, with report of cases, which, after some discussion, was referred to Committee on Publication.

The Nominating Committee then presented the following report, which on motion was adopted:

OFFICERS FOR THE ENSUING YEAR.

President — Dr. C. C. Furley.
First Vice-President — Dr. J. H. Stuart.
Second Vice-President — Dr. J. M. Linley.
Secretary — Dr. F. D. Morse.
Assistant Secretary — Dr. W. B. Gibson.
Treasurer — Dr. W. W. Cochrane.
Board of Censors — Drs. S. F. Neely, M. R. Mitchell, L. D. Jacobs, James Haller.

REGULAR COMMITTEES.

Practice of Medicine — Drs. D. W. Thomas, Switzer, Baldwin.
Surgery — Drs. Tremaine, Gish, Van Duyn.
Obstetrics — Drs. Cochrane, Boyd, Schenck.
Materia Medica — Drs. Shean, Guibor, Bryan.
Physiology — Drs. Stuart, Mitchell, Lanphear.

SPECIAL COMMITTEES.

Recent Advances in Chemistry — Dr. C. V. Mottram.
Recent Advances in Hygiene — Dr. D. W. Stormont.
Infantile Diseases — Dr. E. B. Slosson.
Nervous Diseases — Drs. Gough and Tenney.
Medical Electricity — Dr. S. Whitehorn.
Gynecology — Dr. D. W. Thomas.
Scarlatina — Dr. M. P. Wagstaff.
Diphtheria — Dr. D. J. Ross.
Anesthetics — Dr. J. A. Coons.
Diseases of the Eye — Dr. B. E. Fryer.
Orthopedic Surgery — Dr. J. W. Brock.
Surgical Appliances — Dr. J. B. Hibben.

Medical Ethics — Dr. T. Sinks.
Puerperal Convulsions — Dr. W. Street.
Hernia — Dr. C. P. Lee.
Antiseptic Surgery — Dr. T. S. Floyd.
Diseases of the Ear — Dr. J. S. Lawrence.
Diseases of the Bones — Dr. M. S. Thomas.
Angeioleucitis — Dr. P. P. Trueheart.
Therapeutic Effects of Apiol — Dr. N. Terry.
Public Address — Dr. J. M. Carpenter.

Delegates to the American Medical Association for 1880 — Drs. D. W. Stormont, J. W. Carpenter, H. O. Hannawalt, S. F. Neely, R. Morris, W. S. Tremaine, A. Fuller, W. L. Schenck, A. H. Lanphear, H. S. Roberts, G. W. Haldeman, A. C. Van Duyn, D. C. Jones, B. F. Hepler, James Haller, W. M. Shean.

Delegates to Missouri State Medical Society — Drs. L. S. Brooking, C. V. Mottram, S. E. Sheldon, G. Boyd, F. Speck.

Delegates to Colorado State Medical Society — Drs. C. C. Furley, E. W. Seymour, L. A. Buck, J. S. Lawrence, J. Robinson.

Place of Meeting — Leavenworth, Kansas. Time: Second Tuesday in May, 1880.

The report of the Committee was then adopted, and the Society adjourned, to meet at 9 A. M.

MORNING SESSION.

ATCHISON, KANSAS, May 15, 1879.

Society was called to order by the President, Dr. Furley.

Motion was made that the Board of Examiners be instructed to send certificates to every member of the Society, without cost. Carried by rising vote — 58 to 17.

Voted that an appropriation of $200 be made from the treasury for the immediate expenses of the Board.

Dr. Fryer was appointed to give an address at the next meeting of the Society, on the subject of "Medical Delusions and Quackery."

The President appointed as Committee of Arrangements, Dr. Fryer and the members of the Society residing in Leavenworth. Committee on Necrology, Drs. John Grass, E. R. Switzer, and W. M. Hendrickson.

The following resolution was adopted:

Resolved, That the President appoint a committee of three to revise the Constitution and By-Laws, and report at the next annual meeting.

Drs. Stormont, Sinks and Clutter were appointed such committee.

Dr. Hunter, followed by Dr. McCully, addressed the Society on the

subject of Yellow Fever. Dr. Todd, of Kansas City, spoke of Some of the Needs of the Profession.

The following resolution was adopted:

Resolved, That all volunteer papers not yet disposed of be submitted to Committee on Publication, except those with pathological specimens.

The following report of the special committee was received and adopted:

Resolved, That in the opinion of the Kansas State Medical Society the act to regulate the practice of medicine in the State of Kansas, approved Feb. 27, 1879, is wholly inadequate to protect the people against empiricism, and further legislation in this direction is needed.

Dr. Fryer illustrated the use of the ophthalmoscope in diseases of the eye.

Dr. Osborne exhibited a new instrument for cutting the umbilical cord.

Dr. J. B. Woodward read a report on a case of Bright's disease, and exhibited the pathological specimens, which report was referred to the Committee on Publication.

Motion was made, and carried, that the Society adjourn at 12 M.

The following were appointed Committee on Publication: Drs. Sinks, Carpenter, Fryer, and Morse.

The following resolutions were adopted:

Resolved, That the thanks of this Society are tendered to Powers & Weightman, of Philadelphia, for their magnificent display of chemicals, and to McPike & Fox, of Atchison, for their display of surgical instruments. The latter house is a credit to Kansas, as the former is to the country at large.

Resolved, That this Society tenders its thanks to Mr. S. P. Cook, who, while in charge of Powers & Weightman's exhibition, has won the good-will of the members by his courtesy and intelligence.

Resolved, That the thanks of the Society are due to Mallinckrot & Co., to Park, Davis & Co., and to the Philadelphia Truss Co., for their respective displays.

On motion of Dr. Thomas, the thanks of the Society were tendered to Dr. J. M. Linley for the use of Corinthian Hall, and to the citizens of Atchison for their hospitality.

The Society then adjourned, to meet in Leavenworth the second Tuesday in May, 1880.

F. D. MORSE, M. D., *Secretary*.

PRESIDENT'S ADDRESS.

In responding on behalf of the Kansas State Medical Society to your humorous address of welcome, so generously tendering us the hospitalities of a city whose commercial greatness is the pride of its citizens and the wonder of Kansas, I will say that we are most happy

to see you, to clasp hands, renew old friendships and begin new ones, here, surrounded by your hospitality. We must expect to encounter trouble; it is the common lot of man. Fallible mortals, we are taught to cultivate charity, so that when the white-winged messenger of peace has thrown her mantle over our weaknesses and imperfections the angel of mercy will gather us to a home where I fear our legal friends will never come.

An interesting and instructive fact in the history of medicine is that its progress has always been equal to that of the moral and other physical sciences.

One of the most ancient of human beliefs, prompted by the weaknesses and ills attendant upon human existence, is that the superior powers would some way give to some human beings the ability to confer good or ill upon their fellow-creatures, and also the power of controlling, in a measure, the laws of nature.

Some, in endeavoring to trace the healing art to its origin, very gravely assert that Adam and Eve were possessed of healing knowledge.

Among the ignorant and superstitious, those who were first to study and obtain success in the treatment of disease were deified.

The practice of medicine by a separate class is within the range of history. Herodotus asserts that even in his time such a state of affairs was unknown among the Babylonians and Chaldeans. The practice there prevailed, which also obtained elsewhere, of placing the sick in the streets, so that all who passed by might see them, and if any had been similarly afflicted they could tell of remedies they had tried, and from which they had derived benefit.

Another custom which prevailed, was for those who had been sick to make a statement of their cases and also of remedies employed, as well as the effects of the same, upon tablets, and deposit them as offerings in the temples.

Among the first to practice medicine were the Egyptians. They attributed many valuable discoveries to the goddess Isis, and at the time of Galen many remedies bearing her name appear in the materia medica.

Hermes is considered to have been the first writer on medicine. Among the Egyptians forty-two books were held by the priests as late as A. D. 363, which they claimed were his production. Thirty-six of these contained the history of all human knowledge; the remaining six treated of anatomy, and of various diseases.

Hastily passing these times, we come to the earliest traces of medical knowledge among the Greeks. Grecian mythology ascribes the position of prominence to Æsculapius, whose medicines must have been extremely simple, but who was taught by experience many useful remedies.

The first instance we have recorded of the operation of blood-letting was by Podalirius, a son of Æsculapius.

Hygiea was the mythological sister of Hercules, and was worshipped by the Greeks as goddess of medicine. From her name comes our word hygiene.

It would be useless, though interesting, to attempt to trace the superstitions through the mythical ages of Greece; so we leave them and come to authenticated history.

Plato and Hippocrates both assert that dietetics and anatomy were not observed by the sons of Æsculapius. The former was not cultivated until 376 B. C. The latter could not flourish, as it was considered a crime to delay the burial of human bodies, as the souls of the departed were believed to be obliged to wander about the river Styx until their bodies were buried, consequently they were eager to have the rites of sepulture performed as speedily as possible.

The customs of the Romans, in regard to medicine, were borrowed from the Greeks until the time of Cato (B. C. 150,) who detested the Greek physicians. He, it is said, regarded the cabbage as a universal remedy.

The Israelites, through Moses, received excellent hygienic laws. He also seemed to have an insight into the proper treatment of disease.

Among the Hindoos, Chinese, Japanese and other oriental nations, very gross superstitions prevailed, which were in many respects similar to and remain much the same to-day as they were centuries ago.

The Greeks were the first among whom medicine began to throw off the shackles of superstition. They were the only nation in whose temples the dignity of medicine was not overlooked, and as philosophy began to emerge from darkness medicine did the same.

Pythagoras and his school occupy an important place in the history of medicine. One of his disciples, Alcmæon, was the first comparative anatomist of whom we have any record. His objects of study were mostly, if not entirely beasts. Historians mention others who figured to a greater or less degree in the practice of medicine, but none of sufficient importance to be mentioned in this paper until we come to the birth of Hippocrates the second, to whom belongs the credit of separating medicine from philosophy, and making of it a distinct science.

This celebrated man lived and wrote between the years 460 and 370 B. C. He was descended from a long line of physicians, and had the teachings of his father and grandfather, who were descendants of the Asclepidæ.

From the votive tablets in the temple of Æsculapius he derived much valuable information in regard to the progress and nature of diseases. He gained great credit for having cured Democritus, of Abdera, of insanity, and afterwards refused all pay tendered him by the grateful Abderites, saying that it was a great favor to him to have been

made acquainted with so great and wise a man. According to Soranus, he died at Larissa, in the ninety-ninth year of his age. His works were mostly written on tablets, and covered with wax, and were so mutilated by his sons and others that it is a difficult matter to distinguish his real writings from those falsely claimed as his.

His knowledge of anatomy was quite extensive for the times, but as the practice of buying the dead with all possible celerity prevailed still it is quite probable that his knowledge was gained by dissecting animals. He established no difference between the arteries and veins. He was also ignorant in regard to the nerves. He also entertained fanciful theories concerning generation. He first fixed the periods of disease, and was really the inventor of the art of prognosis.

One of his precepts was, the more we nourish an unhealthy body the more we injure it.

He claimed that the object of the practitioner ought always to be to carefully observe and assist the progress of nature. An axiom, in his sixth book on epidemics was, "Nature is the first of physicians." He taught that evacuation, especially by purging, should never be too copious.

He first invented the art of applying bandages, and otherwise enriched surgery with new observations and inventions. He used the trepan and trephine, and penetrated the ribs to draw off water from the chest. He demonstrated the folly of depending upon theories, and proved that the only true basis of medicine is observation. Had his successors followed up closely the advantages he proved, the science of medicine would then have made rapid progress. But to the speculative Greeks simple observation was repugnant, and so, immediately following Hippocrates, we find the dogmatic school of physicians flourishing.

The next prominent character is Aristotle (B. C. 322). He, aided by Alexander the Great, who greatly encouraged commerce, made some valuable discoveries, both in anatomy and medicine. His principal discoveries were in relation to the nervous system. He also gave to the aorta its name, but ascribed to it simply the functions of the veins, only he regarded it as the trunk of all other veins.

To Praxagoras, a native of Cos, belongs the honor of having discovered the distinction between the veins and arteries. He however held that the arteries during life are filled with air. He was a very bold surgeon, removing the uvula in case of inflammatory sore throat, and also opened the abdomen and replaced the intestines in their natural position.

By his conquest, Alexander brought the Egyptians into contact with Grecian philosophy, and so a spirit of rivalry sprang up between them. Upon his death, which occurred B. C. 321, Egypt fell to his brother-in-law Ptolemy. The Ptolemies were the first who permitted physicians to dissect dead bodies. An extensive library was founded

at Alexandria, where also were established various schools, some for the advancement of the science of medicine being among the number.

Prominent among the physicians of this period are Herophilus and Erisistratus.

Herophilus greatly enriched medical literature by his anatomical discoveries. It is stated that he had permission to dissect living criminals, and that he frequently availed himself of the privilege. He made important discoveries in regard to the nervous system, and also established a difference between the vessels of the mesentery terminating in the liver and those terminating in the mesenteric glands. He gave the duodenum its present name.

Of Erisistratus it is told that in abcesses of the liver or spleen, he would open the abdomen for the purpose of applying the remedies immediately to the parts diseased.

Lithotomy received special attention at the school in Alexandria. A law existed forbidding young practitioners performing the operation.

In opposition to the dogmatic school of physicians, there arose about this time an empiric school, between the years 280 and 250 B. C.

No discoveries were made by any of this school that would entitle them to notice.

Towards the dawn of the Christian era several of the royalty gave their attention to the study of medicine. About this time, Rome having gained almost universal power, philosophers, merchants, poets and physicians came from Greece, Asia Minor and Egypt, to visit the chief city of the world.

About 55 B. C., Asclepiades, a friend of Cicero, came to Rome from Bythenia, and founded a philosophical school of medicine. His theories do not seem to have had much in them that was of practical benefit. His practices, however, were better than his theories. He rejected violent remedies, and laid a great deal of stress upon friction and baths. The most prominent among his pupils was Themison, who was probably the first who made use of leeches.

Luke, one of the sacred historians, seems, from the mention made of him by the apostle Paul, to have been a physician. His account of the crucifixion differed from the rest, in that he seemed to view it from a scientific standpoint. He accompanied Paul on his journey to Rome. During the early years of the Christian era there do not seem to have been many important medical discoveries made or prominent physicians appeared.

Galen, who was born A. D. 132, led the minds of medical men back into the proper channels. He made some discoveries in anatomy, but asserted that the veins arise in the liver, and the arteries in the heart. His pathology was almost implicitly followed for sixteen hundred years. His doctrines in reference to fevers, put into practice, resulted injuriously. He insisted on keeping fever patients in close and intensely heated rooms.

Until the latter part of the fourth century all science and literature were in the keeping of the priests and monks, who, desirous of retaining their hold upon the masses, kept them in ignorance. This, together with the fact that a belief prevailed that the apostles had transmitted healing powers to their successors, caused a great deal of superstition to again gather around the practice of medicine.

Toward the close of the fourth century, Oribasius, who was physician to the Emperor Julian, made extracts from the ancient medical writings, but offered no new thoughts. Medical culture died out among the Greeks, but the school at Alexandria kept up for a long time medical instruction. During the sixth century several medical writers appeared. It is interesting to note how scientific culture shifted from the East to the West, then dying out in the West, revived in the East, where for a time it was fostered by the Arabs, who were quite proficient in chemistry and pharmacy, but whose mode of practice was gross and absurd. Again, by means of the Moors, the tide returned to the west, and in Spain the science of medicine was kept alive. Occasionally flashes of light upon medical science also appear in France and other European countries. During the thirteenth and fourteenth centuries it made rapid progress in France. In 1315 Mondini de Luzzi, the first time for seventeen centuries, dissected a human subject before a class of pupils.

At this time, and for a long period subsequent, surgery was practiced by barbers.

During the sixteenth century the College of Physicians was established in London, previous to which time the licensing of practitioners was vested in the Bishop. Prior to the sixteenth century, trepanning and lithotomy were not undertaken by professional physicians. They mentioned diseases where these operations were needed, but left them for others to perform.

Gunshot wounds were at this period quite a novelty.

Owing to the introduction of syphilis, diseases of the urinary organs became more common. To this century also belong other important discoveries. Andreas Vesalius executed the first anatomical plates after nature. Eustachius discovered the Eustachian tube, and Gabriel Fallopius the Fallopian tubes.

Fabricius Acquapendente first described the valves in the veins, and Michael Servius discovered the lesser circulation, through the lungs. During this century a disease which had prevailed in Egypt for many years, known as the Malum Egypticum, and which is now known as diphtheria, appeared in France, but did not make its appearance in England and the United States until 1856.

The beginning of the seventeenth century is signalized by the great discovery of medical science. In 1619 William Harvey first made known to his pupils the general mechanism of the circulation of the blood. He was physician to James I. and Charles II., of England, and

was also professor of anatomy in the College of Physicians in London. His discovery was bitterly opposed by the physicians of that day. Philosophy and mathematics were both brought to bear upon the discovery of Harvey. Lord Bacon and Galileo, in their peculiar realms of thought, gave it their closest attention.

Although much of superstition prevailed during this century, yet many valuable discoveries in medical science were made. Its close was marked by the production of some of the most eminent men that have appeared in the annals of medical literature, prominent among whom was Sydenham, of England, who was a close reasoner and skillful practitioner.

During the eighteenth century new schools of medicine appeared, but as they were not of material benefit or importance will not be enumerated.

Considerable attention was given to the physiology of generation and to the structure of the fœtus and also to the fœtal circulation.

Valuable discoveries were made by made by Cruickshank and others in regard to the sympathetic system.

Surgery, aided by the European wars, made very material advancement. The association between barbers and surgery was broken by an edict, in France, in 1743, and in 1745 a similar liberation was effected in England, by act of Parliament. Surgery, freed from this degrading association, now made rapid progress.

The great discovery of this century was that of vaccination, by Edward Jenner, an English physician. Inoculation with small-pox virus had long been practiced. Jenner, in 1798, discovered that he could prevent small-pox by taking the virus from a cow previously inoculated with small-pox virus.

The most prominent among the surgeons of this period was John Hunter.

Crossing the Atlantic, and coming to America, we find that the practice of medicine was largely in the hands of the clergy. In fact, men in any profession or occupation were allowed to practice medicine, no matter how poorly qualified they were for it. A few years before the Declaration of Independence, laws were passed by the Legislatures of New York and New Jersey requiring every practitioner to be examined by a non-medical board. The practice of midwifery was almost entirely confined to women.

The modes of treatment were mostly those in vogue in the mother country. In fact, medical education, until near the close of the century, was only obtained by visits to foreign schools. The first course of anatomical lectures delivered in this country was given by Dr. Thomas Cadewalder, in Philadelphia, in 1750, just after his return from London. About the same time, Dr. William Hunter delivered a course of lectures on surgery, at Newport, Rhode Island.

To Dr. Shippen belongs the honor of laying the foundation of the first American college, in Philadelphia, in 1762. Dr. Morgan was appointed to the first college medical professorship. The medical school of New York was next established, in 1767. That of Harvard was next, in 1782, and in 1797 the last prior to the close of the last century was established, at Hanover, New Hampshire.

Thus, from the history of the world and of the science and practice of medicine, we learn that near the close of the eighteenth century, the profession was, to a great extent, groping in the dark, and loaded down with error, with only now and then a gleam of true light breaking through and penetrating the thick veil of falsity that seemed to have fastened itself to and grown over it in the history and philosophy of medicine. Harvey and Jenner stood out as beacon-lights to the scientific and professional explorers in the wonderful realms of medicine and anatomy, infusing new zeal into the profession that has resulted in untold good for the world.

Boerhave, the most celebrated physician of the eighteenth century, at his death bequeathed to the profession an elegant volume, on the title-page of which was affirmed that the book contained all the secrets pertaining to the medical science. An inspection of the work disclosed the fact that all its pages save one were blank, and on that one page was written: "Keep the head cool, the feet warm, and the bowels open." This legend of Boerhave not inaptly illustrates the acquirements of the medical art a century ago. It seeems to have been reserved to the nineteenth century to develop the science of medicine and surgery to that exalted standard which fully justifies our pride of the age in which we live, and of the profession with which we are identified. With the dawn of this century, and when but the first faint tints of its glory were seen in the horizon, master minds were at work. Hunter in England, and Bichat in France, gave us a comprehensive understanding of the structures and functions of man, and the relations that exist in him, normally and abnormally, and became the founders of modern physiology and pathology; later, pathological anatomy, strengthened by the researches of Cruvalhier, Virchow and others, has been given us, and established as a fundamental branch of medical philosophy; obstetrics has been rescued from the hands of the ignorant and firmly placed in its proper order as a science; hygiene and preventive medicine have been the subject of deep research, and added a prolonged lease of life; chemistry, organic and physiological, has been created, and achieved brilliant and important results; the position of nerve centers and powers has been determined; the automatic and reflex action of the nervous system comprehended.

Carpenter, Flint, Muller, Hammond, Dalton and others have investigated the most abstruse problems of the structure of life, and have demonstrated such facts as to make us stand in awe at the results of their efforts. By the aid of acoustics, the condition of the heart and

lungs is revealed; the secrets of the structure of the tissues made known. The devious wanderings of remedial agents can now be traced from the stomach to the remotest parts of the body; the force and character of the unseen movement of the heart and pulse revealed, and in the noonday of the century, America's sons added the crowning glory by the discovery of Anæsthetics, by means of which pain is made to disappear at will, and death is disrobed of half its terrors.

Geo. B. Wood, by his pathological studies of typhoid and malarial fevers; Prof. Lister, with his antiseptic dressings, in surgery; and Spencer Wells, the renowned ovariotomist, have contributed largely to the advancement of science, and added immeasurable years to human life and largely decreased human suffering and woe.

The advancing state of the science of medicine has been the result of the conscientious work and faithful research of the great men of the profession of the whole civilized world, in the best of which may be found many of our own country, and of whose achievements we may well feel proud. Among these grand men may be mentioned the names of McDowell, Valentine Mott, Eve, Dunglison; and, Stille, Gross Flint (father and son), Hamilton, Sayre, Dalton, Draper, and many others who are still active in this chosen profession.

Let us all continue in the ennobling work, seeking the highest degree of perfection attainable, and assisting as much as we can in the further advancement of the profession.

Those whose heads have been whitened by ripe old age can rejoice that their experience and suggestions have aided in the bringing out of so much that a wider experience and a deeper philosophy has pronounced good, and in demonstrating and discarding the evils of the practice. The younger in the profession are extremely fortunate that this is their day and generation, that they live in a period rendered so brilliant by the accumulated triumphs and achievements of the master minds found within the ranks of our profession. And both old and young, and you, my esteemed brothers, and your humble speaker, as also the great family of humanity everywhere, are to be congratulated that the abundant truths which have been so slowly wrung from nature and so tediously evolved from the intricacies of applied science and philosophical research, have been, by these worthy cotemporaries, rendered of such easy access; and all as the result of their simple love of the truth and a sincere desire for the amelioration of the pains and sorrows incident to earth's afflicted children everywhere. Let us, then, not only emulate these worthy patrons of our beloved and exalted profession, but ever be found maintaining the ground won by them, and pushing forward our standard into new fields of truth and scientific research, so that we may not only prove a blessing to the age in which we live, but, like them —

> "Departing, leave behind us
> Footprints in the sands of time."

PUBLIC ADDRESS.

T. SINKS, M.D., LEAVENWORTH.

A locomotive, in hauling an ordinary passenger train one hundred miles, consumes two tons of coal, as fuel. A competent civil engineer, by determining the weight of the train and the gradients of the road, can give you the exact amount of work performed.

A man weighing 150 pounds, by the consumption of a single grain of carbon, can lift his body to a height of eight feet, and by the consumption of two ounces, four drachms and twenty grains, to a height of ten thousand feet. In the one case, coal, which consists chiefly of carbon, is used; in the other, the carbon is contained in the food. In both cases, therefore, the same kind of fuel is used, but the methods are different.

"The muscle and fat of the body are derived from the food, and animal heat is derived from the combustion, by combining with the oxygen admitted by the lungs.

"When the muscles are inactive, slow combustion goes on, and for every grain of carbon burned a perfectly definite amount of heat is produced. When the muscles contract the combustion is quickened, and the additional heat is liberated in the muscles themselves. If external work be done—as in lifting a weight or hammering a nail—the heat is no longer developed in the body, but transferred to the weight lifted or the raised hammer, and is liberated when they fall, and the heat thus liberated is exactly equal to the combustion in the body," just as the speed of the train is determined by the rapidity of the burning of the coal, and the consequent generation of steam.

In one sense, then, the human body may be spoken of as a mere instrument, or engine, which acts in accordance with the principles of mechanical and chemical philosophy—the bones being levers, the muscles the driving-wheels, and the blood-vessels the hydraulic tubes.

The locomotive is a human contrivance, and is directed by a human engineer; while, on the contrary, the human machine is not of human origin, and the engineer is resident within, and is a part of the machine itself. The function of the locomotive is motion only; in the human machine the functions are many and varied. The locomotive is made of iron, and resists decay, while the human machine grows on the meat it feeds upon, and all parts of its structure are delicate, tender, sensitive, and easily destroyed.

In order that a locomotive may perform its work to the best advantage, it must be supplied with good fuel and pure water. The same is true of the human machine.

When the locomotive gets out of order a competent engineer or mechanic is employed to remedy its defects. When the human machine gets out of order—well, the majority of persons rush to a drug store and procure a bottle of patent medicine, the composition of which is as much a conundrum as is that of ordinary boarding-house hash.

Like the inexpert gunner who bangs away with both eyes closed, in the wild hope that something may come within the range of the discharge, they swallow, with avidity most incomprehensible, mixtures, in the hope that some part of them may, by chance, reach the seat of disorder.

I state only a fact when I tell you that three-fourths of all the medicinal drugs sold in this country consist of patent medicines, the vast majority of which are utterly and entirely innocent of any virtues whatever.

We, as a profession, make no complaint of this, for we recognize the royal privilege of every American citizen to punish his stomach to the full extent of his fancy and desires, but we sometimes think that the locomotive is more humanely treated than the human machine, and more wisely, too.

However carefully handled and wisely managed, there comes a time when every locomotive must and does wear out. So, also, of the human machine, "for it is appointed unto every man once to die."

In the one case, we toss it carelessly into the waste-pile of old iron; in the other, we reverently lay it into the earth—sorrowing, it is true, but with the consciousness that, its life's labor performed, it is fitting that it should enter upon its final repose.

For when the hand becomes palsied by time, and the eye dim with the mists of age; when the pages of memory become blurred and obscure, and the surging activities of the world excite no response from the intellect; when, feeble, and tottering, and helpless, we preserve a mere breathing existence, it is time to die.

But when the vigor and vivacity of youth send the blood madly surging through the veins; when hope is buoyant, and all the world seems clad in its most gorgeous robes; when, in the maturity of manhood, the magnificent possibilities of human achievement fire the heart and nerve the arm, and incite to noble deeds and daring ventures, life is grand! life is glorious! and he who adds one hour to its span is a benefactor indeed.

My purpose here to-night is to call your attention to some of the causes which abbreviate human life, and also to some of the methods by which it may be prolonged, for to most persons "the weariest and most loathed worldly life that age, ache, penury and imprisonment can lay on nature, is a very paradise to what they fear of death."

From the cradle to the grave there are pitfalls scattered all along

the journey of life. There are accidents by flood and field; deaths from unavoidable exposure to storms and wrecks—from lightning-strokes, tidal waves, volcanic eruptions, clashing trains, accidental and incendiary fires, and the thousand-and-one causes that come under the head of the chapter of accidents. Out of the very social organization itself there come jealousies and strifes, manslaughter and murder, and, what is worse than all, the long catalogue of deaths that result from the excesses and intemperance of the most genial and large-hearted. But great as is this array, it is a mere fragment of the vast army of death, recruited by those agents called infectious and contagious diseases. It is of these I wish to speak more particularly, because they are chiefly of human origin, and are preventable by human agencies.

"As far back as history goes we find records of devastating scourges. These great diseases have often destroyed the army of the conqueror; they have been the means of removing whole races of mankind from the earth; they have often given the death-blow to an advanced civilization, or have left a strange and enduring impress on the intellectual life of great nations." Take this picture of the plague or black-death from the history of the fourteenth century:

"In China alone 13,000,000 are reported to have been swept away by the pestilence; in Europe, 25,000,000; and in Africa, 6,000,000 to 7,000,000—making a mortality of not far from 70,000,000. Animals perished, as well as men, by the millions; the earth was black and horrible with agony, terror and decay. Death was on sea as well as on land; ships drifted aimless over the ocean, the crews dead and putrefying on board, and carrying infection and death in turn to the shores on which the winds or tides happened to cast the pestiferous vessel. The imagination is appalled at the hideous picture. The fearful mortality gave rise to other shuddering evils. Superstition became rife; the Jews were everywhere slaughtered on suspicion of poisoning the wells—twelve thousand of these innocent people were cruelly murdered in Mentz alone, many sacrificing themselves in masses to avoid the fury of the mob, and in some places being exterminated to the last man, woman and child. Thousands of people died of fear; the ties of kindred were dissolved by terror; mothers forsook their plague-stricken children; the worldly became monomaniacs on the subject of sin; bands of wild devotees roamed through Europe with crucifixes, banners, and iron-pointed thongs, scourging themselves, with the idea of expiating the wickedness of the people, and appeasing Heaven by their sufferings. Humanity underwent a total revolution; society became disorganized; the planet was delivered over to a chaos of terror, superstition, crime, pain, pestilence, and death."

All this, however, was when Europe was emerging from the long night of centuries of ignorance, barbarism, and superstition; when human life was lightly valued, and when every man depended upon his own strong arm for protection and defense. After five centuries of progress and enlightenment, and in this the most advanced country of the age, we should expect a larger measure and exhibition of humanity. Strange as it may seem, the descriptions of the scenes in the yellow fever infected districts of the South, last summer, sound very like those of centuries ago—for the instinct of self-preservation is as great today as in the remotest ages of the past.

From the many reports in the daily papers of the time, I clip the following:

"You do not realize that factories and stores are closed; that the wharves and freight depots are nearly or quite deserted; that tens and thousands of laborers and mechanics and clerks, who are not yet prostrated by the fever, are yet suddenly bereft of the means of earning their daily bread. With nothing to do but wander through the business-deserted streets and talk of the new cases, the ever-lengthening death-list, the growing want of provisions for the well, and necessaries for the sick, the armed quarantines made against them by the outside world, or to sit down hungry and despairing and brood over their misfortunes and their perils, and watch the hearses and plague-carts pass.

"Few, in their comfortable homes, can appreciate what it is to be quarantined against by all the world; to have the cars stop running; to have the steamers cease landing; to have men stand, shotgun in hand, along the highways to order you back into the black-holes of the plague when you are fleeing for your life; to have market wagons from the country cease to bring in supplies; to see the markets grow empty and provisions run up to fabulous rates, until Famine links skeleton fingers with loathsome Pestilence; to see the strongest ties of nature snap in the fever heat like strings of tow in the flame—husbands deserting wives and children; mothers leaving their dying children on the doorsteps for the police to care for and bury. I could a tale unfold which would harrow the soul of every one who reads this—a long, pathetic tale, made up of dark chapters of human suffering, where Death has played his horrible part in hundreds of domestic tragedies. It touches the heart, it makes the sympathetic soul bleed, the sight of such things as are being enacted in this city to-night. Terrible deaths of delirium, horrible ravings of fever, widow-born orphanage brought into life—great God! what miseries, what anguish, what sorrows! I could write you of families buried from the same hearse the same day, of waifs picked up trying, in baby way, to kiss the pale, vomit-splashed features of a mother back into life—but then I cannot. The man who lives through these surrounding scenes turns with horror from their description."

You have all heard or read of stampedes of cattle and other animals from fright. Let me tell you that the worst stampedist in the world is the human animal. In his hot haste to escape from threatened disease or disaster, he has even been known to desert his mother-in-law. It was the boast of Æneas that at the imminent risk of his own life, he bore on his shoulders his aged and helpless father through the carnage and flames of Troy. The stampede from Memphis, last summer, when the yellow fever broke out there, beggars description. Among the many notable instances of heroism and self-abnegation, one deserves to be perpetuated in history. I refer to that in which a man, when one hundred miles away, heroically telegraphed back to the Howard Commission to take care of his wife and child. They did take care of them, and in three days laid them side by side in the same grave.

Over against this, I wish to state that with scarcely an exception, the members of my profession remained at their posts of duty, and devoted their days and nights to the care of the sick and the alleviation of the suffering. Three hundred of them fell among the other ten thousand, and with them journeyed to the realms of the everlasting.

Boastful as we may be of our intellectual superiority, and proud as we are of our freedom and independence, we are nevertheless under the absolute dominion of purely physical surroundings.

We can live but a few seconds without air, so that we are compelled to breathe the air that surrounds us, however noxious it may be. We can live but a few hours without water, and consequently we must and do swallow that within our reach, however impure it may be. We can exist but a few days without food, and when the supply is limited, the cravings of hunger will convert the noblest man into a frenzied fiend which will, vulture-like, gormandize on the foul and the putrid.

At the beginning of this address, I purposely likened the human body to the locomotive, for the reason that, so far as the infectious diseases are concerned, the intellectual and moral nature of man have no more to do with them than the meteors which transiently illuminate the heavens on a summer's night.

While the intellectual part of the brain sleeps, the heart continues to pulsate, the lungs to expand and contract, the stomach to digest food, and the functions of the various organs are perfectly performed. Even in its awakened state, it has but little control over them. Dethrone the intellect, as in insanity, and still these processes go on. The part of the human organism, therefore, which these diseases affect is merely the machine part, and, in reference thereto, it should be treated as such.

The microscope reveals to us the fact that the air we breathe, and the water we drink, and much of the food we eat, swarm with minute living organisms, and that, under the influence of warmth and light, the decomposition of animal bodies is not so much a chemical as an organic process — that an infinitude of maggots, and still lower forms of life, grow and revel in the putrid carcass; that in animal decomposition poisons are generated which, when applied to an abraded surface, are as deadly as that of the upas tree; that in vegetable decomposition poisons termed malarial are generated, which, when inhaled, shake the body with an ague, and often eventuate in death. We have learned, furthermore, that the contagious disease germs select these centers of vegetable and animal decomposition as hot-beds in which to fructify and multiply with astonishing rapidity — 50,000 typhus germs will flourish in the circumference of a pin's head, or in the smallest visible drop of water. They therefore thrive in low, wet ground, in damp cellars, in dirty ponds, in filthy alleys, in badly-lighted and poorly-ventilated rooms, and, like the assassin, spring out from these dark places and stab the unwary.

At the risk of being considered tedious, I shall proceed to tell you something about these infectious poisons which it were, perhaps, well that you should know; and as the information is gratuitous, I hope you will bear the infliction with reasonable fortitude.

"The specific contagia all have two phases of existence — an active and a dormant stage. In their active state they multiply themselves, and communicate change to living fluids or tissues into which they pass; in their dormant stage they simply resist destruction," just as

the yeast plant will multiply itself infinitely in a saccharine solution, or will, if kept dry, remain dormant for an indefinite period.

"One class of infectious poisons render the body inapt for future turmoils or changes of the same kind; they enter the body and leaven the whole mass. As crops produced from vegetable seed, they exhaust the soil, and, at all events, leave an impression or effect which is slowly. rarely, or never afterwards effaced. They enter the body and shut the door upon themselves. Small-pox, measles, typhoid and scarlet fever are of this class. One attack, with rare exceptions, serves as an immunity against a future one. The other class of infectious poisons provoke their peculiar or specific reaction directly they enter the body, but the change they determine in it leaves it more, rather than less, prone to future disturbance of the same kind. The disease they provoke does not secure future immunity; the soil is left fertilized, rather than sterilized, by these germs having intruded themselves; the door is left open for fresh raids. Pyæmia, erysipelas, gangrene, ague, etc., are of this class."

Every one knows that the germinal principle of the pullet's egg will be destroyed if the egg is exposed for a short time to a temperature but a few degrees below the freezing point. Many of us know that the egg of the grasshopper is unaffected by the most intense cold that has ever been experienced in this State. The same is true of these infectious disease germs, or eggs, or seeds; they vary in their powers of resistance to destructive influences. The mere drying of some of them destroys them utterly, while others may be preserved indefinitely. "Like mummy grains, the scarlet fever, yellow fever, plague, small-pox, and typhus poisons can lie dormant in a drawer or cupboard for weeks, or months, or years, awaiting the conditions which shall favor future development. The plague is said to have broken out afresh, after a hundred years, in consequence of the reopening of a plague-pit."

Like the rolling snow-ball, which gathers volume and power in its progress, many of these poisons the more they multiply the more violent and destructive they become. Furthermore, when these germs have acquired sufficient numbers and power to excite diseased action in the body, the diseases they produce run a determinate career which can neither be stopped nor abbreviated by any known power or agency.

How many times and oft has every physician of experience stood by the bedside of the fever-scorched patient and realized the helplessness, the hopelessness, the worthlessness of his art. When the storm rages, the winds howl, the lightnings flash and the billows roll mountain high, the brave pilot clings to the wheel, strives to keep his vessel before the wind, and hopes that the staunch timbers may resist the strain and that the gallant barque may outride the storm. But, alas! more often than otherwise both pilot and vessel go down together beneath the settling waters.

These diseases have accompanied the human race ever since it has

had a history, and are the same now as when Abraham tended his flocks on the plains of Idumea, and will be the same when, in the lapse of ages, another Columbus shall present anew the continent of America to another Ferdinand and Isabella. For in the struggle for existence, the mad strife for place and power and pelf, the very rocks and shoals which daily wreck the vessels of life are ignored, although plain to the view. I am sorry to be compelled to say that by many persons the consequences of our neglect are charged to an avenging Providence.

Now I do not wish to tamper with the function of the clergy, but I embrace the present opportunity to protest against the daily repeated excuse of our great grandfather Adam, that the fault was not his, when he knew better.

Let me, in illustration of my meaning, read a little poetical squib entitled "Asiatic Cholera," which has been going the rounds of the newspapers:

He supped on clams and cabbage
And cucumbers flabby and stale;
And he drank two bottles of claret,
And a bottle of icy ale.

She dined upon green apples,
Cheese and vanilla ice;
The pickle jar she emptied,
And the lobster salad was nice.

And they both felt rather poorly,
At the closing of the day;
And the coroner's jury called it
Asiatic cholera.

And all the papers frothed with
Display type black and broad,
And the pious people maundered
Of the "Providence of God."

And so the world defies sense
And sanitary rules,
And calls the Creator a tyrant,
Because the creatures are fools.

When, in the fable, the teamster called upon Hercules to lift his cart out of the mire, the demigod refused assistance until he himself should put his shoulder to the wheel.

Providence never did and never will help any one until he manifests a willingness to help himself. I speak advisedly when I say that every contagious disease with which we are acquainted may be stopped in its destructive progress and shorn of its power — yea, even stamped out of existence, by a proper application of the knowledge we already possess.

If it please Heaven to rain down sores upon our heads, it is because we do not please to erect shutters over them.

The epidemic of yellow fever in the South, last year, cost ten thousand lives and many millions of dollars. It called forth from the North one of the grandest exhibitions of bounteous charity and generous sympathy that the world has ever witnessed; and following, as it did, so closely the bitterest political contest this nation has yet experienced, the world stood by and wondered. The report of the Howard Association, of New Orleans, contains this beautiful reference to the North:

"We have already, as best we could, expressed in words the thanks we felt to them for their divinely-inspired charity. No human tongue, no human pen, can fittingly

express it. It is as unutterable as the sorrow and suffering which their generosity has mitigated and relieved. Eternity alone will unfold all the good that they have done. We who have, in the administration of their bounty, been called to stand by the bedside of sickness and death, and in the house of mourning and destitution, can tell them only that we have seen the light of hope replace the gloom of an almost despair, and strength and courage revive in those who were ready to die. We have seen and we have felt, but even we do not, and cannot, know all here. The record of it all is written above, and there only shall they read it."

After such a fearful waste of life and expenditure of money, it is a reasonable assumption that at least ordinary precaution would have been taken against a repetition of the disaster. Strange to say, not a solitary thing has yet been done in this direction. If, peradventure, an epidemic of the same kind should visit the same district next summer, we would probably condemn them for their neglect, and instead of organizing measures of relief, we might very properly say, "Let them alone; they are joined to their idols, and if they prefer filth and consequent disease, let them revel in it." But before we attempt to remove the beam from their eyes, let us first extract the mote from our own.

Now one-half the children born into the world die before having attained the age of five years. Of this number, the majority die directly or remotely from scarlet fever, measles, diphtheria, and small-pox — diseases we always have with us, each and every one of them preventable by the same sanitary measures that will and have prevented time and again, epidemics of yellow fever.

Dr. E. E. Snow says, in his last report as Registrar of the city of Providence:

"In connection with this subject, I think it my duty to ask the attention of the people of Providence, and especially of parents, to the following statements:

"1. No case of diphtheria occurs without an adequate cause. This is self-evident.

"2. The cause of nearly all cases of the disease exists in the houses or premises, or within a few feet of the houses where the cases occur.

"3. The cause of nearly all the cases that occur in the city is breathing impure air from privy vaults or sink drains, or cesspools; or drinking impure water.

"Much observation and long-continued and careful investigation have perfectly satisfied me of the truth of these propositions, and they are applicable to all cases, whether in the tenements of the poor or in the mansions of the rich."

If there is any true, genuine, abiding, unselfish love in this world, it is that of the parent for the child. They are so helpless, so innocent, so lovely and so lovable, that they entwine themselves among our very heart-strings, become a part and parcel of our daily lives, and lend to our homes a charm that can be found nowhere else on earth. And when these buds of promise have just learned to pronounce the names "papa" and "mamma;" when their dawning intellects hourly surprise us with *naive* questions, and their vivacious gambols drive away, for the time, the cares and annoyances of business, and make us wish we were children again; to see them droop and wither and die, why the universal world seems to undergo a dissolution, and in our anguish and agony of spirit

we are ready to cry out, like David of old, "O Absalom! Absalom! my son, would to God I had died for thee!" And then to think, and feel, and *know* that the frost which nipped these tender blossoms was engendered by our willful ignorance, carelessness and neglect—why, it is enough to make the very stones themselves "cry out in mutiny against the deep damnation of their taking-off."

Communities, States and nations are mere aggregations of individuals, and as are the individuals, so will the State or nation be. The most useless thing in the world is a dead human being—it is not even utilized by the soap-boiler, and besides, funerals are expensive. The prime element of all value is human life—healthy human life having the greatest value. Wherever we go we find the palaces of the rich environed by the hovels of the poor; there is a Lazarus begging the crumbs that fall from every rich man's table. As in an individual, disease of any limb or organ affects the whole man, so in States, ignorance, vice, disease and suffering cannot be confined to individual sufferers, but must, to a degree, affect the whole body politic. However delightful and cleanly your own home may be, it may be rendered unendurable by a neighboring pig-sty. It is therefore the first duty of the State to attend to the frame and the health of the subject, as the fate of the State will ultimately depend upon the health and strength of its citizens. Mr. Disraeli, now known as the Earl of Beaconsfield, delivered an address at the opening of some model houses for workingmen, last June, during which he used the following language:

"The health of the people is really the foundation upon which all their happiness, and all their power as a State, depend. It is quite possible for a kingdom to be inhabited by an able and active population. You may have skillful manufacturers, you may have a productive agriculture, the arts may flourish, architecture may cover your land with palaces and temples, you may have even material power to defend and support all these acquisitions, you may have arms of precision and fleets of fish torpedoes; but if the population of that country is stationary, or yearly diminishes—if, while it diminishes in number it diminishes also in stature and in strength—that country is ultimately doomed. And, speaking to those who, I hope, are not ashamed to say that they are proud of the Empire to which they belong and which their ancestors created, I recommend to them, by all means in their power, to assist the movement which is now prevalent in this country for improving the condition of the people and ameliorating the dwellings in which they live. The health of the people is, in my opinion, therefore, the first duty of a statesman. Impressed with that consideration, I have endeavored, however humbly, at all times to assist the movements of this character, and I am confident that there is no object of higher importance to engage the interests of society."

Every enlightened statesman acknowledges the truth of these principles of government, but it is far otherwise with the mere politicians whom it is our misfortune usually to have to represent us in our Legislature.

In our form of government, where every individual is a sovereign, an individual wrong must be righted through and by the authority of the government, in its highest sovereignty. While, theoretically,

every man's house is his castle, which may not be invaded with impunity, yet no one has a right to keep a powder magazine, nor a disease magazine, in it, to the imminent danger of the life of his neighbor.

Whatever may be our criticisms upon the improprieties of our neighbors, we cannot escape the fact that they *are* our neighbors, and that a certain proportion of them come into the world freighted with bad organizations — with, to use a Western phrase, a certain amount of natural "cussedness" — the consequences of which we can escape only by united action. The State or the municipality, in its corporate capacity, and not the individual, must take cognizance of these evils, and rectify or modify them. While we, as a profession, are not only willing, but anxious, to do what we can, our efforts must be sanctioned and supported by the public voice, or they will be of no avail.

The enforcement of sanitary laws is always attended with difficulty, because it involves the isolation of those infected, the inspection of dwellings and premises, the destruction of clothing and bedding, the reduction of large attendance at funerals, which sorely affects the pride; it is a species of espionage upon private life which is revolting to the native American citizen, and has a tendency to provoke his wrath. The establishment of a military cordon around the plague-affected district of Astrachan seemed a harsh measure, but it was necessary for the protection not only of Russia, but also of the other nations of Europe, from a wide-spreading disaster. It was like the knife of the surgeon, which severs a member in order that the remainder of the body may be preserved.

Some years ago, in the State of New York, a young farmer was riding along the road on a load of hay, accompanied by his father. The wheels on one side ran into a deep rut, and the wagon upset. The son escaped, but his father fell under the load. The young man immediately seized the fork and began to toss the hay right and left. The wind was blowing quite briskly and the hay was scattered far and wide. A neighbor happening along said, "John, what in the world do you mean by tossing the hay in that wild manner? You will never be able to collect it again." "Confound the hay!" said John; "dad's under the load."

When an infectious disease invades the community, and our relatives and friends are under the load, it is a small matter to us what becomes of bedding and clothing, of pride and privacy. Let them go to the flames or the winds, if "dad" can only be saved.

Last June, the editor of the *Atchison Champion*, after his return from the editorial excursion to Canada, published an interesting and lengthy account of the same, from which we excerpt the following:

"We never made a visit to any section, since our residence in this State, that we did not return home more fully convinced than ever before that Kansas has no superior and few equals among all the States of the Union. And never was this convic-

tion so strengthened, never were we more confident of the great future of Kansas, than after making this journey from the Missouri to Toronto and return. We passed, during our trip, through the center of three of the great States of the Union, through portions of two others, and for a distance of three hundred miles through Canada. We saw larger and richer towns than any we have in our State, and an older, better settled and more carefully improved country than ours, nearly everywhere we traveled. We saw regions that the labor and capital of from fifty to a hundred years have been beautifying and improving. We saw thousands of farms that have descended, from generation to generation of thrifty farmers, for a century past. We saw beautiful lakes and rivers, charming island resorts, fine meadows and cultivated fields, and great forests. And we saw all these at a season when nature is clothed in her richest robes, when her skies are bluest, her sunshine brightest, and her atmosphere clearest and most invigorating. But we came back satisfied that Kansas is the most beautiful State, the richest and most fruitful State of them all.

"If any citizen of Kansas is troubled with apprehensions concerning the future of the State, or believes that there is a better country to be found in some other section, let him travel. He will return with such a wonderful exaltation of spirits, such a confident pride in Kansas, such a sublime satisfaction with his home and all of his surroundings, as he never had before. Give Kansas half the age of Illinois, Indiana or Ohio, and she will far surpass them in wealth, in improvement, and in all that makes life pleasurable and contented. Time, capital and careful culture have been at work there for many years, yet they have not made, with all their efforts, as rich or as beautiful a land as is Kansas to-day. Fairer and bluer skies nowhere bend over a landscape so lovely as our Kansas prairies; a richer and more prodigally generous soil than that of Kansas can be found nowhere on this wide continent; a clearer and purer atmosphere nowhere envelops such a charming succession of gentle hillsides and peaceful valleys as those of Kansas; and the bright sun, as he travels from continent to continent, nowhere shines upon a country richer in all the elements that go to make a people prosperous and a State great, than is Kansas. If any citizen of our State doubts any of these assertions, let him travel and see for himself."

After a residence of more than twenty years in this State, I can indorse all of the foregoing, and more too. Why, it has been said that when the Creator had completed the world, He had a miscellaneous collection of jewels left, which He spread broadcast over the prairies of Kansas.

But let me ask what has been done by the citizens thereof, by the municipalities, counties, or the State, to preserve the native purity of the atmosphere or to prevent the introduction of contagious diseases?

Is there a public building in the State in the construction of which a decent regard has been paid to the philosophy of ventilation? Our legislative halls themselves are notoriously defective in this regard; and when we come to reflect upon the pollution of an average Kansas Legislature, we wonder that they survive the fifty days allotted to each session. I sometimes think it was a wise sanitary provision of our constitution that the sessions were thus limited, for where is the man, however tough, who could endure the longer continued inhalation of such a foul atmosphere? Walk the streets of this or those of any other city in the State during a summer's evening, breathe in the nauseous odors that emanate from the cellars and outhouses, and that circulate through the alleys, and then tell me, unblushingly if you can, that the Kansan, with all his

intelligence and industry and enterprise, has done aught either to improve or preserve what kindly nature has so bounteously provided. Why, ladies and gentlemen, the wonder is not that we die, but that we live.

If the fair name and fame of Kansas for salubrity of climate is to be preserved; if it shall not soon be characterized as a physically, as it has been as a politically, "rotten commonwealth," the people thereof must keep abreast of the age in all sanitary measures. These are plain, simple, and easily understood as well as being economic. Every one knows that unless personal cleanliness be maintained, a bountiful crop of vermin will feed and flourish upon the body. The same is true of streets, and alleys, and drains, and premises, and houses: unless kept clean the vermin of disease will flourish apace.

Air is plentiful, water is abundant, and soap is cheap. A bushel of lime costs twenty-five cents; an ordinary funeral costs two hundred dollars. The Hon. Bardsall Sloat would say that the difference is in favor of lime "by a large majority."

Three hundred years ago, the average of human life in Europe was twenty-four years. It is now thirty-four years, and this wonderful extension of average longevity has been accomplished by simply learning how to live. Our nation—of which we are all justly proud—is more than one hundred years old, but it was only last year that the assembled wisdom of the country discovered that there was a physical as well as a political national life.

Let us hope that this warfare that has been undertaken against Death may be maintained perpetually. I don't think either political party will ever oppose a large standing army for such a purpose.*

I perhaps have drawn you a rather gloomy picture this evening, but I assure you that it has been in nowise exaggerated.

Permit me to say, in conclusion, that I have an abiding confidence in the supremacy of the powers of the human intellect. "Since it is given us to know our own existence, and to be conscious of our own individuality, we may rest assured that we have what is in reality a far less wonderful power, the capacity of comprehending all the conditions of our life." Instead of supposing that there are many things in the structure and functions of the body, and the nature and modes of operation of the various poisons that affect it, which we can never comprehend, I believe there is nothing concerning it which human research

* Since the foregoing was written I have learned that the House bill prepared by and with the advice of the best medical ability in the country, providing for a national quarantine, has been so modified that, in effect, the heart of it has been removed, and what is left is a mere shapeless, dangling skeleton, which they propose to hang up as a kind of political scarecrow to all infectious diseases. Why, the mythological Death himself is a mere walking skeleton, and if they think the vulture of Disease is to be frightened so easily they are much mistaken. Perhaps, with another century, the average Congressman may learn something more than merely how to draw his salary.

shall not at last discover and explain; and I look forward with the eye of faith to the time when, through the labors of the medical profession, man will live out his allotted span of threescore years and ten, and unscathed by epidemic disaster will quietly approach his grave, "like one who wraps the drapery of his couch about him and lies down to pleasant dreams."

PRACTICAL THOUGHTS UPON THE TREATMENT OF FRACTURES.

BY J. M. CARPENTER, M. D., NEW LANCASTER, KANSAS.

The treatment of the different forms of fracture is a question that has been agitating the minds of our surgeons and physicians from the earliest period of our medical history down to the present time; and judging from the discussion at the late meeting of the American Medical Association, it is far from being settled.

If it is a fact that shortening actually does occur in a very large proportion of the cases of fracture of the femur, under the present form of treatment—as was stated by the leading surgeons at that meeting with but one dissent—it is time that some change should be made in the form of apparatus, or in the manner of adjusting the fractures, that better results may be obtained.

And while I am willing to admit it is safe for the rural surgeon to follow the teachings of our text-books, as a rule, in his practice, I do not see how he can do so successfully in the matter under consideration, on account of the great diversity of opinion among our leaders.

Why is it, in looking over the different works upon surgery, and the catalogues of our instrument-makers, that almost every surgeon of eminence has a splint, or an apparatus, for treating one or more of the many different forms of fracture, or at least an improvement or modification of the existing ones? There can be but one answer, and that is—they are all unsatisfactory.

Under the circumstances, all can see how difficult it is for the young surgeon who is deprived of the services of an instrument-maker, on account of distance, and who has not—as most of us who practice, as has been said, at the Cross Roads, have not—the necessary amount of funds to purchase, and the building required to store the car-load of splints and machinery demanded to follow the directions of our text-books. We are, necessarily, compelled to substitute something that we can obtain easily, and which will answer the purpose equally as well, if possible, as the more complicated and expensive apparatus recommended by the different authors.

It is not the purpose of this paper to call attention to anything that is really new or novel, but simply the practical application of a form of dressing of which all have heard, and many have used, but with a great deal of uneasiness as to the results, especially when applied as the first dressing in cases of fracture. I refer to the fixed dressing, which may be composed of any material that is soft and pliable while being adjusted, afterwards hardening so as to encase the limb in an immovable apparatus, such as plaster of paris, glue, starch, etc. As I consider the plaster the best of all, on account of hardening rapidly, not shrinking in drying, and being easy of application, I always use it in preference, when it can be obtained.

The question we shall consider first is the one that refers to the time at which the dressing should be applied, as that seems to be the one that has excited the most discussion, and the views of most of our eminent surgeons are diametrically opposed to the one to which I wish to call your attention.

Agnew thinks the only proper period to apply the plaster roller in the treatment of fractures is after the inflammatory swelling has subsided, and the surgeon can calculate on the fixed dimensions of the part.

Gross approves of it, but would not apply it until the expiration of ten or fourteen days. He says: "I am myself averse to the early use of the immovable apparatus, convinced that the safest plan is to wait until there is complete subsidence of the resulting inflammation and swelling; employed earlier, it *may* induce undue compression, and thus compel removal."

Frank H. Hamilton says "that in all those fractures which are accompanied with such injury to the soft parts as to render subsequent inflammation inevitable, or probable, this form of dressing exposes to congestion, strangulation, and gangrene. Whatever its advocates may say to the contrary, the simple fact is before us, that the number of accidents resulting from this practice is far out of all proportion with any yet introduced. I have met with them myself in all parts of my own country, and the journals abound with records of disaster from this source."

The above are the opinions of three eminent surgeons, and, in fact, a large majority of the surgeons of this country as well as those of Europe hold the same views in regard to the matter.

The advocates of the early use of the immovable apparatus claim most for it the first ten days, urging that this early period is the critical one in the case, and that, by that dressing, undue swelling and dangerously intense inflammation are prevented.

Professor Dawson, or Cincinnati, advocates the use of the dressing but claims that the Bavarian plan is the proper one to use, for that can be easily removed to inspect the part at any time.

I here take the liberty of copying his description of the application of the dressing according to the above plan :

"1. A coarse quality of flannel and a good article of plaster of Paris are necessary. The more open the woolen tissue the more of the mineral it will take up; cotton textures do not answer well. The plaster should be mixed so that it may be dipped up with a cup, to be poured over the limb. It should be but little beyond the consistence of cream; cold water should be used; hot promotes too rapidly the hardening process.

"2. How is it applied? Here is the key to success. It must be put on so as to press evenly all parts of the limb, or it will be worse than a failure. It must fit as exactly as a well-fitted stocking. For illustration, let us select a fracture of the middle of the leg. Take two pieces of flannel that will extend from just above the condyles of the femur to three or four inches below the heel. Sew these together in the middle by two seams about one-quarter of an inch apart; this is to form a hinge; between the seams no plaster is admitted, and it must not reach the flannel along this line. Then place this under the limb so that the hinge line may be directly in the middle. Bring the sides of the inner layer up, and join them with a seam along the tibial spine, down over the dorsum of the foot, to the space between the great and second toes.

"Now sew together the parts of the inner layer, which is below the heel—make this union along the sole of the foot to correspond in line with the junction on the front of the leg. The foot and leg are now completely stockinged; cut the superfluous flannel down so that a roach is left about one inch high. Mix the plaster, and whilst an assistant is pouring it over the stockinged leg, with the hand apply it evenly to all parts.

"Then spread it over the inner surface of the outer layer of flannel, and bring this up and adjust it to the inner layer smoothly. The hand here, also, must be the instrument for molding the parts, for pressing the plastered flannel, for adjusting it to all the elevations and depressions of the limb. When the two layers come together at the roach be careful that at this point you make the angle sharp—a right angle. Much of the excellence of the dressing will depend upon the care taken of this; there must be no want of fit, no irregularity in the line. In this you may avail yourself of the hands of your assistant, in pressing the parts into position. For the purpose of examining the fracture in this stage—or, if you prefer, you may wait twenty-four hours or longer—the stitches uniting the inner layer may be cut and the sides pressed apart, like the valves of a clam-shell.

"3. The case or splint can be kept in place after it has been divided, by cutting notches in the roach, and at each notch surrounding the limb by a fillet of muslin. The untying of these fillets allows the greatest facility in inspection.

"4. Provision can be efficiently made in compound fracture, or where abscesses have been developed in the progress of the treatment. A section can be sawed out from one seam almost to the other without seriously damaging the supporting power of the appliance. A hole can be punched where a drain is desired.

"5. If the swelling subsides so that the case becomes too loose, a mattress of lint or cotton-batting may be laid in, and the leg be again inclosed. This lining makes a pleasant addition.

"6. The apparatus fits the limb so closely, so accurately is it applied to all the elevations and depressions, that shortening cannot occur. In the leg, the ankle and knee, make the two points between which the fractured bone is extended, and when the fragments are adjusted, the limb is so completely incased in the mold that malposition is next to impossible. The same security can be given fractures at any point in the upper or lower extremity."

The plan I have adopted is different in some respects, from the old method or the above, and in some respects I think it has advantages over both.

Allow me to say that the reason there is such a diversity of opinion

regarding the dressing, is owing to the fact that the directions for applying the apparatus by its advocates have not been explicit enough to be fully understood. And, in fact, the cuts, that I have seen of the dressing, after its application in the different works upon surgery, are intended to lead to a very serious error in regard to the subject.

You will notice in one of these cuts — and I think it is a fair representation of all that I have seen — that all of the toes are exposed. Now I am well aware (and I think I can explain so that all can understand) that if an immovable dressing is applied in that manner to an injured limb, that we will have, in a large proportion of cases, as Hamilton says, congestion, strangulation, and gangrene.

Let any gentlemen take a piece of tape and commence bandaging his finger at the distal extremity, and he will find that he can draw the tape quite tense without discomfort; let him do the same with all the fingers and the thumb; then take a wider bandage, and bandage the arm, being careful to have the bandage press upon the extremities of the fingers, first keeping the tension as near as possible the same as he passes upward, and he will find that the unpleasant sensation arising is caused more by the fixed position than by the pressure exerted. For, as he becomes accustomed to the position, the unpleasant sensations disappear. When he removes the bandage, he will find that, instead of being congested, the parts will be almost bloodless.

Now, if he wishes, let him apply it as shown in this drawing, commencing above the fingers, keeping it as near as possible as tense as before, and notice how soon the fingers will become congested and painful, requiring the removal of the bandage. If the pressure is exerted at different points along the arm, the same results will follow.

This, in my opinion, is the reason, as before stated, that our friends have opposite views in regard to the practicability of the dressing, as well as the reason that the plan described by Professor Dawson can be improved.

I claim that it is important that we not only have the pressure commence at the distal extremity, but that it be as near as possible the same as far as the bandage extends, and that form which will do this best is the one we should use.

Professor Dawson, in his description, says: "If the case becomes too loose, a mattress of lint, or cotton-batting, may be laid in, in order to tighten the dressing, *and this lining makes a pleasant addition.*" As I believe it is the paramount duty of the surgeon to give his patients all the comfort he can possibly obtain for them, I use the *pleasant addition first* — that is, I envelop the limb in a layer of cotton-batting, or, what is better, cotton-wadding, as soon as the fracture is adjusted. Another reason for using the wadding is that it is elastic, consequently there is not as much danger of compression at first, and the bandage

does not loosen as rapidly upon the subsidence of the swelling as it would if the unyielding plaster was next to the limb.

In regard to the bandage, if I am correct in my reasoning, we should apply it in the same manner that we would if called upon to bandage a limb which was afflicted with a varicose ulcer; and I am satisfied that if any gentleman present should ask me to bandage a limb of that description, and I should take a yard of flannel and envelop it, tying in three places, that he would consider that I was not fulfilling the indications in the premises; for we are taught that we should be very particular in such cases to commence bandaging at the extremity, and have the pressure equal upon all parts of the limb, and that it can be accomplished best by a bandage that is not too wide.

I therefore use a bandage not exceeding three inches in width, preferring the material to be cheap white flannel, although any open cloth will answer; have a good article of plaster rubbed into the bandage, rolling loosely, thoroughly wetting before using; apply the bandage carefully, the same as you would in bandaging an ulcer; have it extend far enough to cover the joint above the fracture, in order to prevent any motion of the muscles that would have a tendency to displace the fragments.

In order to get sufficient firmness to the dressing, I take pieces of flannel from two to three inches in width—depending upon the size of the limb—of sufficient length to reach from the extremity as high as the bandage extends.

Mix a portion of the plaster in a suitable vessel, about the consistency of good paint; apply to the sides of the limb with an ordinary paint brush; take the strips of cloth before mentioned, apply them horizontally to the sides, being careful to leave a vacancy in the center of the limb underneath, where I wish to have the hinge in the dressing, also leaving space above, in order to open easily, if necessary. Apply some more of the mixed plaster to the outside of these strips, and, if needed, more strips, until you get the dressing of the required firmness, the strength being limited by the amount of strips and plaster used. This, I think, is preferable to using clear plaster, as you have a much stronger dressing, with less weight. After smearing the outer layer of strips with the wetted plaster, take a wrapper similar to the outside wrapper described by Professor Dawson, and apply over all, drawing tense, but being careful to have the edges that come together in the center, upon the upper surface, free from plaster, to fasten them after it hardens.

We then have a bandage that is strong and better fitting than can possibly be obtained from the Bavarian plan. The pressure beginning at the extremity, and being equal as far as the bandage extends, all that is necessary to open this dressing is to divide the one thickness of the under bandage, which can be done very easily if we moisten with

alcohol, strong brine, or diluted muriatic acid; then you have the same dressing as the one described by Dawson, but far superior in strength, compared with weight.

And I am satisfied, if the dressing is applied as above described, there will be no occasion to open, except it be to tighten the bandage, as the pressure is exerted in such a manner that, instead of producing strangulation, it will actually deplete the part, thereby decreasing the tendency to inflammatory action, and placing the limb in the best possible condition that can be obtained to hasten the union of the fragments.

Another point that is being disputed in the treatment of fractures is that of those fractures that involve the joints, as that of the condyles of the humerus, most writers claiming that passive motion should be used early in the treatment. Dr. John C. Warren, of Boston, believes so firmly in it that he recommends "that no splints be used" in such cases, and that "the patient be accustomed to easy and daily movements of flexion and extension," and adds, "the accomplishment of this process is so very painful that few patients have the courage to submit to it, and few surgeons the firmness to prosecute it;" and to this cause he attributes the loss of the use of the articulation in a great many cases.

Prof. Hamilton says, "Within seven days, perhaps earlier, passive motion must be commenced and perseveringly employed, from day to day, until the cure is accomplished."

Prof. Gross says, "Passive motion should be commenced at the end of two weeks."

Sir A. Cooper advises, "that passive motion should be commenced at the expiration of three weeks after the accident, in the child, and a month in the adult." This practice has been recommended and followed by most English surgeons.

Miller, of Edinburgh, Erichson, Jewett, Malgaigne, South, and others, hold similar views.

I am aware that all of the above-named surgeons are men of recognized ability, and among the leading members, if not at the very head, of the surgical profession in America and Europe, and we should be very loath to depart from any of their teachings unless we have good sound reasons for so doing, and even then we should watch closely the results of our departure.

Those of you who were at the meeting at Lawrence, two years ago, will remember that I called attention to this subject at that time, and that I stated that I believed the cause of the stiffening of joints, in case of fractures, was due to two causes: first, the change consequent upon the loss of mobility that was absolutely necessary to have perfect union of the fragments of bone; second, the inflammatory action that was set up by the irritation produced principally by the movements of

the fractured parts, thereby causing a blending of the tendons with their sheaths, and the binding down of the parts designed to be free by the products of inflammation. The first cause produced a condition that was easily overcome by passive motion after the parts were firmly united. But the second was the principal, and, in fact, the only one which would produce permanent disability; and consequently it was the one against which we should use our best energies; and that I believed that the indications were best met by *that plan* of treatment that would keep the parts perfectly at rest, limit the blood supply, thereby reducing the chances of inflammation to such an extent as to have but a small amount of exudation, and, consequently, but slight adhesions—and, in my opinion, the plaster of paris bandage, applied as I have described, was *that plan.*

I find, in looking over the *St. Louis Medical and Surgical Journal* of last June, that Prof. John T. Hodgen has an article upon the subject of passive motion in cases of fracture involving the joints. His conclusions are as follows:

"1. The stiffness of joints resulting from suspended motion, if persistent, should be treated by passive motion.

"2. During the existence of inflammation, from a fracture involving a joint, passive motion can only result in harm.

"3. Passive motion, after the union of fractures involving a joint, and after the subsidence of inflammation, will aid in the restoration of function.

"4. The time that passive motion should begin cannot be named in weeks, or months; but should be determined alone by the condition of the part.

"5. Perfect rest and equable pressure are the best means of preventing anchylosis, resulting from inflammation, in case of fractures involving joints."

And adds:

"I began the use of plaster of paris dressings in 1862, and have continued to use them to the present time in cases involving the knee, ankle, and elbow joints, with the purpose of preventing motion and securing uniform pressure, and I think I have never had a case injured by such a dressing. I will further add, that I have not made passive motion in any case of fracture involving a joint, until the union of a fracture was firm, and the inflammation had subsided. In the earlier part of my practice, I expended a good deal of time in trying to devise a good elbow splint that would admit the passive motion, but never succeeded in applying a hinge splint so that the center of motion in the splint and limb corresponded so exactly as to permit motion at the joint without a degree of disturbance at the site of fracture, if near the joint. To-day, I believe it fortunate for my patients that I did not succeed, for the reason that I believe that motion, *during the treatment of a fracture*, insures, rather than prevents, anchylosis from inflammatory deposit."

With the above I heartily agree, and feel assured that any member of the profession who will adopt the fixed dressing in the class of cases referred to, will find that the results will not only be more satisfactory, but the comfort of the patient will amply repay him for the fears he may have had when applying the dressing; as every one who has tried the old method well remembers his feelings, as he used passive motion in those cases before perfect union of the fragments had been secured,

and the slightest movement would produce great distress to the patient. For, as has been stated by Prof. Hodgen, I believe it is almost an impossibility to apply a hinge splint in such a manner as to permit motion of the joint without displacing the fracture more or less, especially in those cases where the joint is actually involved, and they are the only ones that require passive motion at the time recommended by the authority above mentioned.

It is true that I have not used the treatment in a very large number of cases, but the results have been the same in all, and they were so satisfactory that I feel impelled to report, hoping to hear from others who may have used the fixed dressings in those cases; believing, as I do, that all that is necessary is to give the treatment a trial to have its merits fully understood.

REPORT OF CASES.

CASE 1.—J. G. Child two years of age; German; very fleshy; both ulna and radius fractured about center of lower third. Cause, fall from top of shed used as a stable. Seen about one hour after occurrence. Considerable contusion of soft parts, and consequent congestion and swelling. While examining the case, I made up my mind that if I bandaged the arm, as we are taught to do in such cases, that I should have trouble, as it would be necessary to *fix* the parts; as the child was so young he could not be reasoned with, and, consequently, would be continually moving the arm and likely attempting to remove the bandage with the other hand, thereby producing pain and increasing the inflammatory action. The child being so very fleshy, and the weather warm, I was fearful of the result if bandaged sufficiently tense to hold the splints in place, unless equable pressure be exerted upon all parts of the arm. I therefore resolved to use the plaster bandage, watch the case closely, and open when necessary, supposing it would certainly have to be removed within the first twenty-four hours; but then I would have a splint that would fit the parts exactly, and it could be loosened or tightened at pleasure.

I applied the bandage as directed, being very careful to bandage the fingers first, and have the arm well protected by the cotton-batting. As soon as the dressing had become firm, I allowed the parents to take him home—a distance of four miles—instructing them if the child should suffer much, or if the ends of the fingers should begin to look purple, showing that the limb was becoming congested, to let me know immediately; on the contrary, if he seemed comfortable, and the fingers retained their normal size and color, they should wait until the eighth or tenth day, and then bring him down so that I might examine the limb, and see if any change was needed.

Being very busy, I thought no more of the case until I saw the father, five weeks afterward. Remembering then that the time had passed

when he should have been at my office, I asked him why he had not brought the child down. His reply was: "Vell, doctor, I vas so busy, und de baby vas so vell, I tell mine frau he vas all right und ve vill risk it; for de baby he not cry, und his arm he not swell, und you tell me in five weeks dat vat you put on cun come off; I take him off last Friday, und de arm vas shust like it vas first—all right—und I's got de moneys to pay yo' for de job."

Remembering the old adage, "All is well that ends well"—and when did a doctor have a better ending than that to any of his cases?—I thanked the German for the fee, and resolved in my own mind that I would try the same treatment in my next case of fracture.

As it would be trespassing upon your valuable time to report all the cases in which I have used the dressing, will simply say in regard to those cases where there was but little contusion of the soft parts, that they all did well, having no trouble with the dressing, except in some cases it required opening to tighten, but in no case did I have to open to loosen the dressing.

CASE 4.—L. R. Girl, eight years of age; fell from cattle-shed, fracturing the ulna through the middle third. As she fell about seven feet, there was, necessarily, considerable contusion. Did not see the case until next morning, as parents did not think at first that the limb was broken. Found the arm very badly swollen, and the patient suffering intense pain upon the slightest motion. Administered chloroform, and applied bandage. Third day, opened to tighten the dressing, also upon the seventh day; after that no more trouble. Result perfect.

CASE 7.—Mr. M. Fracture of lower end of radius, involving the articulation, the styloid process being broken off. Cause, being thrown violently from wagon by runaway team. Seen about ten hours after accident. The gentleman being quite fleshy, the parts were much swollen and very sensitive. Applied plaster dressing; was compelled to change once, and open and tighten twice, on account of reduction in size of limb. Did not allow any motion until the end of five weeks. Some stiffness at first, but in short time motion was perfect and but very little loss of strength, unless the arm is flexed and held in such a position that the strain is upon the external lateral ligament, and even that has nearly all disappeared at the present time.

CASE 8.—Willie B. Fracture of middle third of humerus. Cause, kick from horse he was leading. Seen in about two hours. Parents had lain the arm upon a pillow, and had kept up a continual dripping of cold water on the part, as it was the last of May, and the weather quite warm. Found the arm badly bruised from the effect of the kick. Succeeded in reducing the fracture with but little trouble, and I am willing to admit I had the fear of Hamilton's censure in regard to using the dressing in such cases. But believing as I did, that the best way to prevent inflammation was to procure rest and to reduce the blood supply,

I was very careful in e..veloping the arm in cotton-batting, and in having the pressure of the bandage to commence at the very extremity of the fingers; drawing moderately tense, I applied it, having the arm flexed to relax the biceps, and extending up on the shoulder. I was very particular in my instructions to the parents in regard to watching the ends of the fingers, and if there was any change to let me know immediately. Did not see or hear from the case until the end of a week, and then they brought the boy to my office, reporting that he had suffered very little until that morning, and that was caused by the movement of the part on account of the dressing being too loose. I opened the dressing and found the swelling and ecchymosis nearly gone. Some of the cotton adhering to the contused portion of the arm, as it seemed quite firmly fixed, and as there was but little soreness, I left it there. Reapplied the dressing after cutting the edges so I could tighten sufficiently. It was removed at the end of five weeks, the boy in the meantime attending to any work he could do with the other arm.

CASE 10.—Willie S. Aged six years. Fracture of middle third of femur. Cause, falling down stairs. Seen four hours after accident. Limb swollen to almost twice normal size; as parents had simply placed him upon a bed, leaving the limb in the shape it was at the time the accident occurred. Administered chloroform before reducing; after reduction, applied adhesive strips to the sides of limb, extending above the knee, as recommended by Prof. Sayre, in the treatment coxalgia.

After encasing limb in plaster, which I extended above the knee to prevent any motion of that joint, I fastened a pulley to the foot of the bed, so as to have weight attached to adhesive strips sufficient to counteract the contraction of the muscles of the thigh, and keep the limb down to its normal length.

The cotton I used at first was a very poor article, and consequently it produced some irritation; I was compelled to remove the dressing the second day, but found the swelling greatly reduced; reapplied the dressing, using a good quality of cotton; patient rested well; opened the eighth day, and found the limb one-eighth of an inch longer than its fellow; swelling mostly gone. After trimming edges of bandage, reapplied, instructing parents to remove weight during the day, and allow the child to move about in the bed as much as he desired, but to be sure and attach weight at night, and if bandage should become too loose, tighten the strips which had been tied around the limb to hold the bandage in place. At the end of three weeks the child was placed upon his feet, and allowed to walk with the aid of a chair or crutches. Removed the dressing at the end of six weeks; found the limb quite strong, and instead of being shortened, it was at least one-tenth of an inch longer than its fellow. At the present time the child is not certain which limb was fractured, and it requires very close examination to ascertain the fact.

CASE 14.—Willie M. Age, six years. Fracture of inner condyle of humerus. Cause, being pushed from a high fence by a play-fellow. Seen five hours after the accident. As swelling was very great, bandaged the thumb and fingers with narrow strips before applying the dressing; adjusted fracture, placed the limb in mid-state between pronation and supination, applied the dressing carefully; opened in three days to tighten, and again at the expiration of eight days; child suffered but very little; did not allow any motion until the end of five weeks, when dressing was removed and union of the parts found to be perfect, with but very little rigidity of joint. Used friction and passive motion, and in a short time good use of the limb was obtained. At the present time he has no difficulty in moving the arm in any direction.

CASE 19.—Mollie F. Fracture of upper third of femur. Cause, falling eight feet from loft upon hard floor. Seen eight hours after accident. Treatment the same as case 10, using chloroform, being assisted by Dr. Briggs, of Rockville. Results good. Limb, after removal of dressing, one-eighth of an inch longer than the other. At the present time but slight difference in length, and use nearly perfect.

CASE 22.—C. K. German; aged thirty. Fracture of lower end of tibia and fibula, being the second variety described by Erichson, or what is called Potts' fracture. As the fibula was fractured about three inches above the ankle, and the tip of the malleolus internus was splintered off the tibia, the foot being rotated outwards. Cause, falling off horse against a bank, while running at full speed—leg being caught underneath. As can be readily understood, there was a great amount of swelling, and the parts were badly contused by the violence and the weight of the animal he was riding. Patient lived eight miles distant, and it was some time before he was seen. As I considered this one of the best cases I had seen to test the dressing, I was very careful in its application, padding the inner part of the lower end of the leg well, to overcome the deformity; placed wadding between the toes, and extended the dressing above the knee. Advised him to let me know immediately if he should suffer much, or if the end of toes should become livid. Seen at the end of six days, dressing removed, and additional wadding placed inside, to tighten; readjusted on tenth day, and again on twenty-first. Patient after that allowed to move around upon crutches, advising him to bear as much weight upon the limb as he could without causing discomfort, and no more. At the end of six weeks dressing removed. Accident occurred last September; at present time he is doing his ordinary work as a farmer with but very little inconvenience; limb swells slightly if used too much in walking.

CASE 24.—A. H. Age, forty years. Lower third of tibia fractured in two places; fibula in upper third. He was attempting to hitch a pair of young horses to a wagon, when they became frightened, running in opposite directions, one of them striking him in the breast

with its hip, raising him from the ground and whirling him violently around, striking the tibia against the wagon tire, or some other hard substance about that width, as a piece about two and a half inches in length was broken out of the tibia, and when seen was pressed outwards about one-half inch, the bone above and below showing the depression very plainly. The supposition is, that the fibula was broken when he fell upon the ground. Seen in about twenty minutes. Some contusion, but scarcely any swelling. Adjusted the fracture, and applied dressing. Some pain on account of pressure upon anterior tibial nerve previous to adjusting fracture, but not severe. Examined on eighth day, and on twelfth was allowed to walk to dinner-table, with the aid of crutches, since which time he has moved about more or less every day. Accident occurred four weeks since; shall remove dressing when I return, and am satisfied the results will be as good as in any of the cases I have reported.

In conclusion, permit me to say that all of the cases reported are still residing in the vicinity of New Lancaster, and the results of the treatment can be verified at any time.

The object that I have had in view in the presentation of this paper is, that those who practice, as I do myself, in the country, where we have not the advantages derived from the instrument-maker that can be obtained in most, if not all, of our cities, and are necessarily compelled to manufacture as well as adjust our appliances, may obtain a hint which they can improve upon, thereby assisting them in some of the difficulties which all rural surgeons are compelled to surmount.

ATELECTASIS.

BY C. P. LEE, M. D., PLEASANTON, KANSAS.

This disease consists in the imperfect expansion of the lungs by the first inspiration after birth — that is, in a permanence of the fœtal state, in the lung of the new-born infant. It is to be regarded as a disease dependent upon restricted functional development at the time of birth, and not upon any original defect of formation in the respiratory organs. When at all extensive, atelectasis terminates, sooner or later, in death; under favorable circumstances, however, in early and complete, or tardy and imperfect, recovery. During the first few days after birth, it may still be possible that the evil may be surmounted by a vigorous penetration of air; whereas, at a late period, organic changes supervene, which forever incapacitate the undeveloped portion of the lung from performing its proper function. There is, however, still

wanting a complete account of this disease, as regards both materials and pathological deductions. I will attempt to furnish as accurate an anatomical description as presented in several cases which came under my observation while I had charge of the Kansas State Insane Asylum, at Osawatomie.

An entire lung, or even an entire lobe, was seldom found in a state of atelectasis; but, for the most part, only single and scattered lobules.

Experience shows that certain portions of the lung are especially prone to retain the fœtal condition, namely, the inferior lobes of both lungs, and the posterior half of the remaining lobes generally. Yet we find examples occur of several lobules near the anterior surface being found in like manner undeveloped.

The diseased patches displayed brown-red, or rather bluish-red color. which is more intense if the entire lobe is uniformly expanded — in which case, it is marked off by a sharp contour from the surrounding pale-red, healthy substance. When, on the other hand, scattered cells within such a lobule have become inflated, the violet color is interrupted here and there, and passes by a gradual transition, and without any distinct boundary, into the natural shade.

A distinguishing feature of the disease is this, that the above patches upon the surface of the lungs at all times exhibit a slight depression, the superincumbent pleura remaining perfectly smooth and polished. A lobe, either entirely, or for the most part, in this condition, is never found enlarged, but, on the contrary, of much smaller dimensions than the others, and almost as much collapsed as in the fœtus, which is generally deeply imbedded within the thorax, and drawn down toward the entrance to the bronchii and blood-vessels. Hence single diseased lobules do not obtain the same elevation of surface as the healthy ones with which they are surrounded, but, as already stated, form depressions, more or less considerable, so that the general aspect may be likened to the dimples created by emphysema in adult lungs. Neither by incision nor pressure is any crepitation produced, unless when a few air-cells happen here and there to have become expanded. The delicate reddish froth is never found here as in healthy parts of the lungs, but merely a small quantity of serous, slightly sanguineous fluid. The cut surface appears smooth and uniform, without a vestige of granulations; the whole of the diseased structure is not softened, but rather of a hard character, still without the tenacity of the healthy parts. When a patch so situated is cut off and placed in water, it sinks to the bottom.

When atelectatic infants die in a few days after birth, it is generally possible to dilate, artificially, the undeveloped parts. The depressed lobe is then seen to rise, by degrees, to the level of the rest, and assume the color, permeability, and other characters of sound lungs up to this

point; had other circumstances been favorable, perfect recovery might have taken place.

When, however, the little patients have survived for weeks or months, this infiltration seldom succeeds, or only imperfectly. At this juncture, the unexpanded pulmonary cells are for the most part coherent—a remarkable fact, seeing how long the lungs continue to remain unexpanded in the fœtus without adhesion even taking place. Whatever ulterior transformation goes on in the diseased parts—which is not satisfactorily determined—it is, however, more than probable that not a few indurations, especially the small calcarerous concretions, sometimes occurring without any obvious cause, at particular spots within the general structure of the lungs (generally at the back of the inferior lobes), are, to some extent, referable to the above source. At all events, it may be observed generally that, in atelectasis, the boundary-line between the diseased and healthy substance becomes less and less distinct in proportion as life is prolonged.

At the earliest period of infantile existence the contrast is very decided, the diseased parts being immediately surrounded by pulmonary texture in all respects natural and healthy. In infants who die of atelectasis, invariably will be found the *foramen* of the heart unclosed; a fact confirmed by observation, which at that stage of life is not unusual. The brain usually is found in a congested state. When death follows soon after birth, the body has the appearance of being generally developed, but is extensively ecchymosed; the hands and the toes usually are clinched, accompanied with foam in front of the nostrils at the closed mouth. When, however, the disease has been of long standing, the body is usually wasted and wrinkled. Under these circumstances, both the affected and the adjacent parts are found inflamed, if not in a state of suppuration. Inflammation is not necessary, and not frequent, in the sequel of atelectasis. I have never met with a case of inflammation which could be traced directly to the diseased lobe.

I would here state that atelectasis, with the characteristic features above described, is not at all times distinguished from other diseases, that condition not having been duly recognized, and frequently has been confounded with other similar pulmonary diseases. I am here under the necessity, however hazardous it may appear, of submitting these discordant views to the ordeal of critical examination.

French writers who first turned their attention to the changes in the pulmonary texture of new-born infants refer to this disease under the head of *pneumonia lobularia*. The German writers have, to some extent, adopted the same view.

In atelectasis, the coloring of the diseased portions of the lung approaches to a violet, their exterior appearing smooth and glistening, so as to contrast with the dull, brown-red surface of inflammation. In

inflammation, again, the diseased portions are preternaturally distended, while in atelectasis they are collapsed and inferior in the healthy texture in volume—but susceptible, providing the disease has not lasted too long. In inflammation the pulmonary texture is softed; in atelectasis it is hard, and the cut surface is not granular, but smooth. When no complications exist, the anatomical characters of a first or third stage of pneumonia are not discoverable in or near the diseased patch; in short, we have nothing like pneumonia, except the solid, non-crepitant mass, which is likely to be confounded with the second stage of the disease, namely, with red hepatization. While single pulmonary cells have been dilated in the midst of an undeveloped lobule, the absence of softening, and of the peculiar, congested, humid character of its texture, offers a wide difference between it and the first stage of pneumonia. A portion of the lung retaining its fœtal condition allows a little thin, dark, apparently natural blood to escape upon pressure; in the first degree of pneumonia, a quantity of turbid, bloody fluid, mingled with fibrin, and with a few minute air vesicles; in red hepatization, a tenacious, dirty-brown, reddish; in gray hepatization, a large proportion of grayish-yellow, purulent fluid may be expressed. Atelectasis usually affects both lungs; pneumonia is, for the most part, confined to one lung. Finally, the secondary pneumonia attendant upon pneumonia, as inflammation of the pleura and of the bronchial mucous membrane, and softening of the bronchial glands, with fibrous concretions within the cavity of the heart—these are wanting in atelectasis. The peculiar character of this fœtal condition of the lungs is only those marked during the first few weeks after birth; subsequently, when, as already stated, ulterior changes take place, it becomes extremely difficult to form an exact diagnosis from mere *cadaveric* inspection. Atelectasis is frequently confounded with pneumonia by some writers on diseases of children, as their publications amply prove; for we find specified under "infantile pneumonia" so much that is peculiar and enigmatical, so many deviations from the same disease in the adult, as to render it obvious that two maladies of quite dissimilar diseases are brought under the same *rubric*. The accounts given of the appearance after death are, in many instances, conclusive as to the justness of the foregoing assertion; and that without reckoning the previous symptomatic relations, namely, the frequent absence of true inflammatory phenomena, the entire want or irregular accession of fever, and the very slender information derived from percussion and auscultation. This perplexing difficulty has many times induced writers to assume a double form of infantile pneumonia. Rilliet and Barthez, distinguish an acute and chronic type: the first occurring in children somewhat advanced; the chronic form, on the other hand, assails, for the most part, new-born infants, and agrees, anatomically, very close with atelectasis. Gerhard has shown that atelectasis chiefly concerns children from birth until the

age of one year. "Crusi," who properly rejects the idea of atelectasis being a pneumonia or bronchio-pneumonia, met with inflammation of the lungs in young children very readily. Valleix is perplexed by certain incongruities really belonging to atelectasis. The greatest difficulty is to account for the "hepatization" patches, always hardened, instead of softened, and for their cut surface being smooth instead of granular. In the new-born he never met with these secondary results of pneumonia so constant in the adult. Whatever has been encountered of that nature by others, I am inclined to attribute to some other morbific source.

The very manner in which the disease spreads within the lungs is opposed to the course of pneumonia, but, on the other hand, consistent with atelectasis. When death occurs a few days after birth, it may be possible that infiltration and inflammation commence "*in utero*."

In conclusion, I consider myself entitled to draw the following inferences: new-born infants are prone to organic affection of the lungs, altogether distinct from pneumonia, and dependent upon imperfect inspiration after birth, by many confounded with pneumonia, and by Rilliet and Barthez designated as *carnification*.

The greatest number of cases of pulmonary disease occurring in the earliest period of infantile life, and set down as pneumonia, may be regarded as cases of atelectasis. This assertion may be taken with some reserve. Pneumonia will occasionally prevail as an epidemic with new-born children; under these circumstances pneumonia will obtain a numerical preponderance over atelectasis when pneumonia attacks infants in foundling hospitals.

REPORT OF A CASE OF NEPHRITIS AND CYSTITIS.

BY J. B. WOODWARD, M. D., OLATHE, KANSAS.

The death of Major Theodore C. Bowles, which occurred at Olathe, Kansas, on the 8th of April, 1879, from disease of the kidneys and bladder, has elicited a wide-spread inquiry as to the real nature of his disease. This interest has arisen partly from the prominence of Major Bowles as a public man, long connected with the political life of Kansas, and from his having, for the last three years, been the honored and efficient Superintendent of the State Institution for the Education and Training of the Deaf Mutes of the State; but principally because of the contradictory opinions of the medical profession as to his case.

At the request of several professional friends, I am led to give as full a history of the case as I can, from my personal observation.

I can go no further back than to September, 1877, when I was called to treat him for an attack of bilious remittent fever, which kindly yielded to treatment. At that time I first learned that for many years he had suffered from some obscure disease of the kidneys and bladder, for which he had been variously treated, and that in August last he had gone to St. Louis for examination. His case had been variously diagnosed, and had been called "stone," "gravel," "inflammation of the neck of the bladder," "Bright's disease," "nephritis," etc., etc.

On examination, Dr. Knapp, of the State Institution for the Insane, and Dr. Wever, of Leavenworth, had both diagnosed "pyelitis or nephritis and cystitis." I found the urine scanty, loaded with mucus, alkaline, and the specific gravity only 0.8; water, 1.000. There was a fair quantity of urea. He told me that "for three months he was treated by an eclectic, with buchu, uva ursi, etc., etc., but only to aggravate the case."

Here I will give the prominent symptoms as they existed at the time: Pulse, 100—and he told me that "for four years it had never fallen below;" deep-seated pain in the back; could not hold his urine for more than from ten to twenty minutes; spasm of the bladder and penis, so that he would scream and grasp the penis with his hand; retraction of the right testicle; frequent vomiting; at times obstinate constipation, or diarrhea. In November, 1877, he went to St. Louis, where he was cut for "stone" by Drs. Hodgen and Mudd, but no stone was found. He returned in the latter part of February, with all the symptoms aggravated. The urine passed off through the cut, which was kept open by the direction of his surgeons. Attempts were made, at various times, to pass a catheter through the uretha, but as soon as the membranous portion was reached severe spasms were brought on. It was thought that by keeping the cut open, allowing the urine to pass there, the neck of the bladder would heal; but it did not. From time to time soft catheters were passed through the cut to the fundus of the bladder, in order to collect urine for examination. It was nearly always alkaline. Sp. grav., 0.2 to 0.6, loaded with mucus and pus, with casts of the tubules. There had been no doubt in the minds of Drs. Wever and Knapp as to the nephritic character of the case, and as I was in constant attendance on him, and examined the urine, both chemically and microscopically, every few days, the evidence was complete, to my mind, that there was "acute nephritis and cystitis." As the months went on, he had frequent rigors, which I interpreted as evidence of abcess of the kidneys. For the last few months of his life no urea could be found in the urine; but pus, casts of tubules, epithelial cells (changed), and the debris of broken-down tissue formed the mass of fluid which drained from the bladder.

In the early part of December last he had severe attacks of neuralgia of the diaphragm, mediastinum, and pleura, which quickly affected the heart also, and it was for many hours that life was sustained by the hypodermic use of morphine and cannabis indica. These spasms were finally controlled by cannabis indica, carried to the point of toleration.

Since September last there was a general catarrhal condition; vomiting and coughing up large quantities of thick, clear mucus. About three weeks previous to death, anasarca prevailed in the lower limbs, and was gradually extended over the trunk. The scrotum and penis were like a great bladder, and the prepuce was swollen to such an extent that resort was had to punctures, by which quarts of water were discharged. A remarkable phase of the case was an uncontrollable, morbid appetite. He would call for and insist on large quantities of the richest food, while thirst was intense. By the advice of Dr. Wever, the use of sulph. magnesia in frequent small doses enabled the bowels to eliminate the urea, which should have been by the kidneys.

It will be observed that little has been said of medication during the past two years. Necessarily it was almost entirely symptomatic, for symptoms changed so often and were so complicated that nothing could be predicted from day to day. For fully two years mental changes were observed. Memory of details, failure of judgment, and reasoning power failed; but still, when he roused himself to special effort, he was able to keep up an oversight of all that went on in the Institution he so loved, and though his sufferings were great and unremitting, he would forget them all when anything of importance to the Institution he had so faithfully and unselfishly watched over was brought to him.

I cannot close without a word of tribute to the man as I knew him. Large-hearted, warm and honest, he worked as few men could, or would, in the midst of severe bodily pain and mental anxiety. *Requiescat in pace.*

I think there are lessons for many of us to learn from this case, and perhaps the most prominent is, "How shall we learn to diagnose such cases?" The notes of the autopsy will teach us some grand truths.

NOTES

OF THE POST-MORTEM APPEARANCE OF THE BODY OF MAJOR THEO. C. BOWLES, MADE AT OLATHE, KAS., APRIL 9, TWENTY HOURS AFTER DEATH.

Rigor mortis complete. General anasarca of the whole body. As during the illness of the deceased there had been no symptoms of disease of the brain, the head was not examined. All the great cavities of the body were full of clear, straw-colored serum. The heart and lungs were removed; no signs of disease, except that the surface of the lower portion of the left lobe was thickly streaked with milliary tubercles, and the extreme lower portion of that lobe was partially hepatized, but no portion of the lungs was adherent to the costal pleura. The liver

and intestines were removed, but neither showed any sign of organic disease. The kidneys and bladder were removed. Both the kidneys were greatly enlarged. The left kidney weighed one pound and five ounces. On laying it open, it was hard, cartilaginous, and the pelvis held about four ounces of pus. The cartilaginous walls were full of large cells, from the size of a bean to that of a walnut, all full of pus. There was not a particle of healthy tissue in the organ; the walls of the cells were rough and ulcerated. The ureter was enlarged to the size of a man's finger, and full of pus. The right kidney weighed fifteen ounces. It was nothing but a great sack filled with pus. In places the walls were not more than two lines thick. The ureter was also enlarged like the left, but harder, and full of pus. The bladder was hard and shrunken, and its cavity would not hold more than an ounce of fluid. The mucous coat was intensely inflamed, ulcerated, and sloughing. The neck was ulcerated and cartilaginous. The sphincter was obliterated. Like the other organs, the bladder was full of pus.

Several physicians of Olathe, as well as Drs. Knapp, of Ottawa, and Hayes, of the State Institution for the Insane, were present, and assisted at the autopsy.

PUERPERAL CONVULSIONS.

G. W. HALDEMAN, M.D., PAOLA, KANSAS.

I presume it is not questioned that of all the disorders which tend to convert an otherwise natural into a preternatural labor, there is none so serious in its manifestations, or so dangerous to the life of both mother and child, as an attack of puerperal convulsions. Its occurrence, which is usually sudden and unforeseen, is startling to all who are connected with the patient—especially to the medical attendant. However experienced or self-possessed he may be, it is apt to bring dismay and misgiving in view of the increased and perhaps unexpected responsibilities he is compelled to assume, and of the fatal results that may follow despite his best-directed efforts. He quickly realizes that he has important duties to assume and discharge, which, if neglected, may be speedily followed by disaster, and that there is urgent demand for acuteness of discrimination to select, and courage to do the right thing at the right time. In short, he feels the importance of being master of the situation, and of being vested with authority to do, and to do at once, without let or hindrance, what the wants of his case demand. He dare not sit down and leisurely contemplate the condition of things, and say as General Grant did at an important juncture in the history

of the late war, "We will fight it out on this line if it takes all summer;" but we must conquer the enemy and take Richmond, lest the enemy, strengthened by delay, capture his confiding patient and consign her to imprisonment where the laws of exchange are unknown.

To enter into a description of the symptoms which characterize this complication of labor, would seem a useless waste of time on an occasion like this. Anyone, otherwise qualified, who carefully reads a description of them as set forth in any of our standard works on obstetrics, will not be at a loss to determine the character of the ailment when he sees a case, even for the first time. They are characteristic and unmistakable, and, if viewed in connection with the attendant circumstances, and the time of their occurrence, there can be no possible reason for entertaining a doubt as to the diagnosis. And with a clear impression as to the nature of the trouble in hand, we ought also to have a full realization of the dangers involved, and of the large percentage of mortality that follows in the wake of the malady, thus making the diagnosis, under many of the conditions present in a goodly number of cases, exceedingly unfavorable.

As to the *causes* which tend to promote, and actually do produce, an attack of puerperal eclampsia, there still seems to be some disagreement of opinion among medical men. That we should study all of the numerous theories entertained and advocated, or that we should burden our minds with a knowledge of them, it seems to me would be as useless as it would be unprofitable to the busy practitioner at the bedside. In trying to think of all these, in an emergency, he would likely, instead of being cool and self-reliant, be as fidgety as a cat in a strange garret, or as destructive as a bull in a china-shop, and be more likely to succeed in making an exhibition of the broad part of his anatomy than in devising measures for the salvation of his patient! What we do want, however, is a few well-defined ideas and clean-cut notions of the pregnant condition and of the ordinary and more prominent departures from the natural cause of pregnancy. Under ordinary circumstances, leaving out of view the usual physical changes which take place, the condition of pregnancy is but little else than a physiological process modified, more or less, by surrounding circumstances. But when there *is* a departure, it is a fact that in most of the cases there is a tendency to congestion of the more important organs, as of the brain, spinal cord and kidneys, besides more or less irritation of the womb and its appendages, in at least seventy-five per cent. of the cases of puerperal eclampsia — a fact recognized and admitted, I dare say, by a large majority of the profession in this country.

If, then, the cause is to be found in the condition to which I have referred — leaving out of the question the influence exerted by the presence of albumen in the urine as an exciting cause, or as a complication merely — the treatment naturally simplifies itself very much. The in-

dications, always undisguised and unmistakable in a vast majority of the cases, make it easy to determine what remedies should be instituted to lessen the danger and to arrest the progress of a disorder rapidly tending to a fatal termination. What are the symptoms which make the indications so unmistakable? There is usually a sharp pain in the head above the eyebrows, accompanied with obtuseness of intellect and indifference to the surroundings. Pulse full and bounding, possessed of force equal almost to the business end of a mule. The labor may scarce have begun, or it may be advanced and be advancing as rapidly as if it was in all respects normal. The symptoms preceding an attack are usually marked, but generally overlooked. An attack comes, and the inquiry is: What must I do to save the patient's life?

I answer by stating that a majority of the cases will fare best and recover quickest if we make a prompt, free, and vigorous use of the lancet. The *quantity* of blood taken must not be measured by any preconceived notion we may have on the subject; we must be governed solely by *effects*. If we abstract ten ounces, and close up the vein, without having reduced the *force* and *frequency* of the pulse, the patient might as well not have been bled at all; the *oppression* from which the functions of the brain and the nervous system generally are more or less disturbed, is not removed. To be effective, the venesection must be thorough and decisive, lessening not only the force and frequency, but the impulsiveness of the heart's action. But one will say: "The patient is already weak, and cannot bear depletion; you'll still further reduce the strength," etc. In answer to suggestions like this I would remark that, in my opinion, "there is an erroneous impression in the minds of some as to what they are pleased to term *reducing treatment*," and which, I believe, is the source of many of the fanciful *isms* in medicine, so much vaunted by the credulous. Looking at the question in all its bearings, I doubt if there is "a single case of any kind of disease in which the indication or object of medical treatment is *to reduce the strength* or lower the vital power of the patient's system." But what we do aim to accomplish by venesection, for instance, "is the reduction of disproportionate vascular excitement or congestion, and the restoration of the *balance* or *equilibrium* of the circulation." It is mere imagination to entertain the idea that the abstraction of blood always lowers the strength; the reverse is often the result, as many are aware.

Another remedy of great value in these cases is chloroform, as an *aid* to venesection in the congestive form of this malady, and as the chief remedy in the anemic, dropsical condition, which is sometimes predominant, and which is characterized by a weak, quick, irritable pulse. Like venesection, it is calmative, besides being anodyne and hypnotic. It is possessed of an influence that cannot readily be dispensed with. in controlling and subduing that peculiar *reflex* irritabil-

ity and excitement noticeable in puerperal eclampsia. Besides the lancet and chloroform, we have valuable adjuncts in potassa bromidi, veratum viride, etc., when the patient can swallow; also in opium and its preparations, which can fortunately be introduced through the skin, if not otherwise.

But the crowning act of the drama is the one which quickly terminates the labor at the earliest possible moment; and when the os is dilated or dilatable when the convulsions set in, or when we are satisfied that an attack is threatened, and the os is in the condition mentioned, this should be accomplished at once by an immediate use of the *forceps;* which, though mentioned last, are first and far above all other remedial agents in importance. Why wait, as some are still inclined to recommend? The child's presence in the womb is the cause of the trouble in hand; it is now, so to speak, the nail in the foot, or the prune-seed in the wind-pipe; you would of course operate and remove the one; then why not the other? Why?

I have thus attempted, in as few words as possible, to advance some suggestions as to the gravity of an attack of puerperal convulsions in labor; as to the need of singleness of purpose and tireless energy in the selection and administration of appropriate remedial agents, and as to the importance, above all, of as speedy a termination of the labor, by instrumental interposition, as it is possible to accomplish that end. I have only, therefore, to call up a brief history of three cases which have come under my observation—two of them in my own, and one of them in the practice of a neighboring medical friend—and I have done.

CASE 1.—Mrs. McK., primipara, a resident of Newville, Pa., aged about 22 years, a well-formed, healthy woman, was taken sick on the afternoon of October 20, 1868. I was called in at 8 o'clock P. M., and ascertained that she had had labor pains for three or four hours. Taking a general survey of the case, and asking a few questions, I waited an hour, when I made the usual examination, and found the liquor amnii discharged, the os dilated and dilatable, and the labor, to all appearance, progressing favorably, giving promise of a speedy termination. In probably ten minutes, without any symptoms of the approaching trouble, excepting some headache, and a pulse about 85, full and strong, she was taken with a most violent convulsion, leaving her insensible. I sent the husband around the corner to my office for the forceps, and directed him to call on the way and have a medical friend to come to my assistance. At the same time I opened a vein in the arm. The husband came with the instruments, accompanied by the doctor, who took charge of the venesection, and I applied the forceps and delivered the child alive and kicking. The desired effect having been attained by the bleeding, the arm was tied up, the quantity taken measuring over a quart. Immediately after the delivery of the child, she had an-

other, but less severe convulsion, when she was put and kept mildly under the influence of chloroform for five or six hours. I then speedily removed the placenta, after which she had the third and last convulsion, remaining insensible and speechless the next eighteen hours. After the last convulsion I injected ¼ gr. of morphine in the skin, repeating the operation in four or five hours with ⅛ gr. of the same medicine, which, with the exception of a few doses of bromide of potass.. given after she regained the ability to swallow, was all the medication needed. The recovery was both rapid and complete in every respect, and she has since, as I have been informed, given birth to two or three children without any trouble whatever. The forceps and venesection, aided by chloroform, did the work.

CASE 2.—Mrs. H., primipara, aged 18 years, a stout, healthy woman, was taken in labor on the morning of March 31, 1876, in the hands of a midwife. She was soon taken with a convulsion, which was too much for the old lady, when my friend Dr. Brooking, of Stanton, Kansas, was summoned, who arrived, as he states, about 9 o'clock A. M. She soon thereafter had another convulsion, breathing heavily, and remaining unconscious, with a pulse both strong and full. The os was found by him to be undilated and very rigid. He at once bled her freely, and then began the use of chloroform; but the convulsions returning every thirty to forty minutes, though less severely than before the treatment mentioned, the doctor requested counsel, and had me sent for. I reached the scene between 1 and 2 o'clock P. M.; but before my arrival he had again bled her. Found the os still rigid and but little dilated, and the patient entirely unconscious. We then agreed to alternate each other in keeping her under the anesthetic, and in dilating the os with the fingers. The contractions had not advanced the child, but by 5 o'clock we succeeded in getting a sufficient dilation of the os to admit of the introduction of the blades of the forceps, when we delivered her of the child, which was still-born. During the time of all this manipulation, she would have occasionally a mild convulsion. The after-birth having been removed, and the patient properly arranged, I left. The doctor afterwards informed me that soon after my departure she had another convulsion. The pulse being again full and strong, he bled her the third time, the convulsions, in mild form, recurring two or three times. After the last bleeding, she being able to swallow, he put her on 25 gr. doses of bromide of potass. The woman recovered in a short time, without a single untoward symptom, and has since given the doctor a chance to catch two live babies, no trouble whatever occurring to render her labors preternatural. Who says the results would have been as satisfactory without bleeding, chloroform, and the use of the despised forceps? Who?

CASE 3.—Mrs. Y., also primipara, a resident of Paola, Kansas, aged 29 years, fair complexion and light hair, was taken in labor during

the forenoon of the 10th day of last February. I was called in about 1 o'clock P. M., and found her suffering with head ache, to which she had been more or less subject before and during her pregnancy, and her pulse weak and quick, beating at the rate of 110 per minute. Learning that the liquor amnii had just been discharging, I hastened to make the usual examination, and found the os considerably dilated and quite dilatable, and the head entering the sup. strait. I requested a change of position and her removal to the opposite side of the bed. This was promptly attended to, but had scarcely been accomplished when she was taken with a violent convulsion. I at once had chloroform gently administered, and, happening to have my forceps with me, though only a few blocks distant from my office, I made preparations to deliver forthwith, and had Dr. Gossett called to my assistance, who came to the rescue just as I had delivered the child, he taking charge of the chloroforming, which was kept up, more or less, for four or five hours. Having removed the placenta, I injected under the skin, with the assent of the doctor, ½ gr. of morphia. In a few hours she began to notice things, and to have ability to swallow, when we began the use of 20 gr. doses of potassa bromidi every two hours. She got along tolerably for a week, but then one of her limbs became swollen and painful; her pulse became weaker and more frequent; the milk which had begun to flow dried up; the headache became more severe, and the appetite for food disappeared. The convalescence, for a time, was entirely suspended, and greatly protracted, two months having passed before she had regained her usual health; but under the persistent use of quinine and the chalybeates, aided by such additional remedies as the varying circumstances of the case seemed to demand, she finally came out all right, with a baby, fed on cow's milk, doing well and growing finely. In this case the lancet was not used, though I am not sure that the abstraction of a small quantity would have done any harm, for we have the authority of Hartshorne for the belief that, even in cases of this kind, when *uræmia* seems to be at the bottom of the difficulty, "venesection may do good, by taking out the excreta with a portion of the blood, and favoring secretion by general relaxation." But, without saying anything for or against bleeding under the circumstances alluded to, I think we have a right to claim that the prompt delivery, aided by the other and milder remedies, was *the* means by which the patient's life was saved. If not, why not?

RECENT ADVANCES IN CHEMISTRY.

BY J. B. GISH, M. D., VALLEY FALLS, KANSAS.

Prominent among the recent advances made in chemistry, may be mentioned the discovery of new metallic elements.

Of these, cæsium was discovered in 1860, rubidium in 1861, thallium in the same year, indium in 1863, gallium in 1875, davyum in 1877, and phillipium in 1878.

The discovery of the two metallic elements, cæsium and rubidium, nineteen years ago, by Kirchoff and Bunsen, by spectral analysis, was followed by the addition of a number of new elements to the list.

The four new elements first mentioned were named with reference to their several spectra: Cæsium shows a number of faint lines, but gives two brilliant lines between G and H in the blue part of the spectrum; rubidium has also a number of faint lines, but has two deep-red lines near the limit of the red, by which it is characterized, and for which it was named; thallium gives a green line between D and E; indium gives two lines—one deep blue at or near G, the other indigo, near H, whence its name.

The two metals cæsium and rubidium belong to the alkali class, and so closely resemble potassium, in their chemical reactions, that without the aid of the spectroscope they would probably never have been found.

Besides the new elements just enumerated, and before the spectroscope was used in analysis, quite a number of new elements had been announced by Bergman, Herman, and others, all of which were rejected by later investigators.

By the periodic law of Newlands, developed by Mendeljeff, it is shown that a marked relation exists between the quantivalence of elements, and also a regular progressive increase of their combining weights. In a tabular illustration of this law were left blank spaces, which it was predicted, as far back as 1864, would be filled by new elements.

Gallium, an element discovered by L. DeBoisbondran in 1875, it is claimed. verified the prediction, as it fills the blank between aluminium and ytterbium, as well as that between zinc and arsenic. In this, again, the spectroscope led to the finding of the new elements by showing a peculiar line in the violet.

The new metallic element, Davyum—named in honor of Sir Humphrey Davy—was discovered by Kern in 1877, among the platinum ores.

Phillipium is another new metallic element, discovered in 1878 by Delafontaine, in samarskite, and claimed to have been found prior to

that time by Smith, of Louisville, Ky., who called it mosandrum. With this element an absorption band is given in the blue part of the spectrum.

The element decipium, also announced by Delafontaine as a new element, was found by him in samarskite from North Carolina. It gives three absorption bands in the indigo. In the same mineral were found ytterbium, didymium, terbium, erbium, and thorium. Terbium, once rejected, was again, on account of its spectral characteristics, added to the list of elements.

Much trouble in regard to the rare metallic elements — many of which are found in samarskite — is caused by its uncertain composition, and many controversies have grown out of this same cause. A number of these metallic elements have also been found in Swedish gadolinite. It is from this source that Marignac announces the discovery of ytterbium, named so after Ytterly, the place where found. There have been announced several other metallic elements, about the nature of which there seem to be many doubts, and by some it is thought that there is but a bare possibility of their existence at all.

A disposition exists in the minds of many chemists to regard some of the elements as compounds of the other elements; and they look for a smaller rather than a larger number of simple elements, as the science progresses. How this may be, time alone will develop.

The laws which Dalton promulgated in 1803 to 1808, known as the atomic theory, are generally adopted at this time, and prove to be a very important aid in chemical investigation. Also, spectrum analysis is another very important element in chemical investigation, and no doubt to it we owe much of our progress.

In 1802 Wallaston prepared the way for the discoveries of Fraunhofer, Kirchoff, and others, by the invention of a new method of observing the solar spectrum. This he did by admitting the rays of the sun into a dark room through a narrow slit, and, at the distance of twelve feet or more, viewing them through a prism of homogeneous glass held near the eye. Out of this invention of Wallaston grew spectrum analysis.

Among the observations upon the spectrum, partially anticipating Kirchoff's principle, are those of Fraunhofer, in 1815, Talbot, in 1826, Brewster, in 1832, Wheatstone, in 1835, and Foucault, in 1849. In 1855, Prof. A. J. Angstrom, of Sweden, applying Euler's principle of reciprocation and absorption by bodies of the same sorts of undulations which they are capable of emitting when themselves originally excited, was led to the view that any body at a glowing heat emits the same rays (refrangibilities) of light and heat as, in the like condition, it will absorb if they impinge upon it; but the first general and decisive proof in reference to light, of the principle of Euler and Angstrom, was furnished by Kirchoff's experiments in 1859 with flames charged with

lithium and sodium. Since the first qualitative analysis was made by Basil Valentine, in the 15th century, it has been an important factor in our advancement, as well as that of quantitative analysis, first made by Tachenius in the latter part of the 17th century.

The blow-pipe is in general usé in qualitative and quantitative analysis, as is also the spectroscope, for the detection of the rarer metals.

The recent advancements made in the science of physiology, and those, too, of the most value to the profession, are to a great extent due to chemical investigation. The process of digestion has been studied thoroughly, and although Lehman and his followers hold to the theory that the acidity of the gastric juice depends upon lactic acid, it has been, by the investigations of Schwann, Boucherdat, Claude Bernard, Bidder, Schmidt, and others, demonstrated that its acidity is due to *free hydrochloric acid.* Only two active agents have been found —hydrochloric acid and pepsin. Neither of these agents alone is able to perform the work of dissolving, and preparing for assimilation, the ingesta. A neutral solution of pepsin is found to be inert; it will not act upon albuminoid substances; but a few drops of acid will restore its digestive powers. Other acids may aid in digestion, but all are not equally powerful. Lactic acid is thought by some to be very energetic, which may have been a cause of the mistake of Lehman. Another cause for his error may lie in the fact that analysis of the gastric juice is difficult, and that with albuminoid matters hydrochloric acid forms compounds which require an elevated temperature for their decomposition. By analysis of the secretions and excretions, which, of late, has largely occupied the attention of the profession, much valuable information has been obtained.

In certain pathological conditions in which our diagnosis was uncertain to a great degree, we now, by bringing to our aid chemical analysis, arrive at more satisfactory conclusions.

Upon the subject of animal heat, the benefits of modern chemical investigations are evident. By analysis of the ingesta, and a thorough study of the class of actions called vito-chemical, the processes of assimilation and depuration, as well as the means of sustaining animal temperature, are fairly understood; while there may be some differences of opinion among investigators, yet upon the more important facts they are agreed.

For the past few years, and at this time, quite a number of scientific gentlemen have been, and are now, devoting their time to the investigation of the cause, nature, prevention and treatment of certain diseases known as infectious, zymotic, etc., with, probably, fair prospects of reasonable success. The class of chemicals and chemical compounds known as antiseptics and disinfectants are being used to combat, and, as far as possible, limit their prevalence.

There are, among physicians, some who manifest a disposition to

abandon the malarial theory in regard to remittents and intermittents, and to account for the phenomena charged to it, in the effects of heat and cold upon the processes of assimilation, secretion, excretion and depuration, as well as that of sustaining the animal temperature. The late Prof. Linton, of St. Louis, favored the heat-and-cold theory. In the treatment of injuries and their consequences, surgeons are becoming more favorable to the antiseptic treatment, and claim that the use of antiseptics is attended with excellent results.

In the class of chemicals known as alkaloids, much has been done, and some valuable additions to the list of remedies have been made.

In conclusion, may we not look upon the disposition manifested and the efforts made by so many in recent investigations, as a most important advance in the progress of chemistry?

REPORT ON PRACTICAL MEDICINE.

BY WM. B. CARPENTER, M.D., LANSING, KANSAS.

It has occurred to me that the object for which our annual meetings have been instituted is for the purpose of a mutual interchange, as it were, of the practical experience of each one of us during the preceding year—an interchange of opinion, with the hope of benefitting *some* of us. In view of this, it seems to me a waste of time to spend hours in quoting from authors aforetime.

The present status of medical science, in any of its various departments, is so far in advance of our first beginning, that it should admonish us to waste no precious hours from the few set apart for these meetings, in reiterating the discoveries of sages a century agone. Not at all ignoring the jewels *they* brought to light, which were the lamps that first guided our doubtful steps in years only recorded in memory, I have only to suggest that we are moving in another part of the great medical cycle, and we have a new order of things to deal with, and thus declare to you, let us lay hold of the present; let us turn our attention to the practical points in medicine as they are to-day. You whose heads are penciled with silver can look back along the line of your past lives—no matter how distant—and trace the changes and advancement in the science of medicine to the present day; *you* can see its glories flash up, as one by one the hidden jewels were uncovered, lighting up the field of your mental vision until it *would* seem *now* that no more rays *could* be added to the scene; yet, while time shall last, greater discoveries will undoubtedly be made, and the end no man knoweth. Oh, how much the young

practitioner has to be thankful for; what legions of vexations *he* may escape, that those of earlier days had to contend with; *his* pathway is as one strewn with roses, compared to that of the early practitioner. There are, however, many obstacles to the success of practice now, even in the most enlightened communities, and even at this enlightened age many will permit themselves to be imposed upon, and even seek after false gods, under the guise of the marvelous. There are none of you but have been cognizant of numberless cases where you would have given the victims—for they are nothing else—credit for more stable intelligence. It seems strange that, in this age of intelligence, mankind cannot be satisfied with the natural, but must be ever seeking after the unnatural; what the legitimate cause is *based* upon, is a mere matter of opinion, and each one of us, if we compared notes, would most probably give a different one. Intelligent, rational persons are satisfied, when they choose their medical counselor, to submit themselves to *his* judgment, with the utmost faith in his abilities, saying: "Never mind telling me what is the matter, or what you will give me, but *cure* me; I am sick—make me well." But the human family is burdened with eccentrics, and not one who hears me now but has had his experience. Happy is he who routs the disease his patient has at the onset, before any collateral influences impede the progress of his ultimate success; impertinent intermeddlers *will* advise, though contrary to the patient's good, and to the utter vexation of the practitioner; *who* of you has not experienced *this* can well claim to be happy.

Having thus spoken of the great advancement in the practice of medicine, in general terms, allow me next to allude to the increase in the facilities.

The question has often been asked: "How is it that doctors practice so differently now-a-days from what they did in the days of our forefathers?" I might answer, and truly, that men have become wiser with the lapse of time; but is this all? In years agone, I remember the words of one (whose name will ever live in memory) saying that the character of (what he termed) the epidemic constitution, or governing principle of disease, had changed; that, whereas, half a century ago, the general character of disease was above par, so to speak, or of a sthenic grade, that a certain amount of depletion proved necessary, before any vantage-ground could be relied upon; whereas, later, the nature of the epidemic constitution was of asthenic character, or below par, and a corresponding or supporting treatment was demanded at once. Now this has been food for reflection for me, more or less, for years, and I am free to say that, even in my own experience, I believe it to be really so. I can well remember when *we* used the lancet and other depleting agents, almost invariably on our first visits to cases presenting certain sthenic symptoms; whereas, for the past fifteen years alone, I don't think I have found an instance in which I thought

it practicable, if not even derogatory, to use them; but invariably set about building up my patient, to enable me to carry him through and beyond the crisis. And since my advent and sojourn in this intercontinental district, where the malarial principle (or whatever suitable name you may give it) underlies almost all classes of disease, I have found that I am compelled to adopt the supporting treatment from the very first; for, almost invariably, whether the case be pneumonia, or articular rheumatism, or diarrhea, or dysentery, I have learned it wise to at first look for the indications requiring the administration of quinine, or its kindred remedies. In all my experience in this climate, I have yet to meet my first case of pneumonia uncomplicated with malaria that, sooner or later, did not develop an intermittent character, which, when promptly interrupted, though heptization might be extensive, I felt confident my patient would recover, where it possessed a fair standard of recuperative powers to assist me; the interruption of the intermittent, and thorough neutralization of the subtle poison—that I consider, in this latitude, the great exciting cause—is the great desideratum, little else beyond good, careful nursing, and such practical elements as may be indicated, need engage the attention.

I have in the last few months had under my charge at a rough estimate not less than fifty cases of articular rheumatism, and there has not been a single case that has not shown an intermittent character, and very often ushered in by a well-marked chill; and in every instance where it was not promptly interrupted after the first paroxysm, a second and a third would appear, until quinia was administered in quantities sufficient to interrupt them, after which some one of the usual antirheumatic remedies sufficed, choosing such as seemed best to meet the idiosyncrasy of the patient—which, as you know, is a feature that does exist, and one interesting to observe.

As a secondary treatment, one may recover rapidly under the influence of salicylic acid alone, or, combined with quinia; another, under the influence of iodide of potassium, or iodide of sodium; others, better under iodide of potassium combined with quinia and citric acid in solution, or in place of the latter, sulphuric acid; and some, again, upon continued doses of quinia alone, or, equally as well, the sulphate of cinchonidia; and a favorite plan with me is, to combine the quinia, or cinchonidia, with Dover's powder (in form of capsule for convenience); but in all this I never wish to lose sight of the saving benefits of the quinia. It is seldom that I have met with a case of dysentery that was not, more or less, ruled by this veritable principle: the patient, to-day, having had a very severe attack of dysentery, frequent evacuations, much tenesmus and excessive tormina; after taking some form of anodyne, the symptoms abate, yet leaving the patient prostrate; troubles having ceased, and supposing himself out of danger, a day or even two, transpires, and the party returns to his accustomed vocation; but

again the attack comes on, and continues to return at *regular* intervals, bringing the patient low, even unto death; but when the sovereign remedy *is* administered, early in the interval, *and boldly*, the disease is readily put at naught. And in the case of diarrhea — we will suppose a case: A laboring-man of vigorous habits, laboring in the open air, becoming athirst after much exercise in the scorching sun; in his heated condition he gorges himself with cold water, regardless of quantity or quality; now the contrast in the extremes of temperature, of the heated stomach and cold water, is alone enough to create a rebellion in his abdominal regions; now, then, being most likely saturated with latent malarial principle, his nervous system receives so great a shock, that at once an intermittent is precipitated, and Nature, true to herself, endeavoring to recover her equilibrium, sends this flood, so unceremoniously precipitated upon her, sometimes to the right-about face, and as often in the opposite direction; temporary relief having been obtained, there may be a lull of twenty-four or more, hours, when the programme is renewed, or, mayhap, followed by a plain intermittent, but just as often by the same; here, again the anchor of hope is quinine. And thus you go on to the end of the chapter — scarce an ill that flesh is heir to that, sooner or later, will not demand the use of quinine.

Who of you but has had his experience with prospective parturient cases; where the parties interested did not persist in declaring that the time was at hand and the great event must be consummated; when, upon a careful and impartial examination, you inform them that there must be some mistake; that, except the pains, there are no existing symptoms of parturition, but every *evidence* of an existing intermittent, which, when the interval occurs, you prove to their entire satisfaction by the results of the next few days. In view of this fact, that this subtle principle pervades our systems to such a degree that anything which may produce a sudden shock to the nervous system sufficient to disturb its equilibrium, no matter from what source it may be received, will be repeated until, in the usual way, you take the necessary steps to prevent it.

Now I declare to you, as a matter of opinion, that I consider it a very fortunate thing for us that such a state of affairs exists, for if we use discretionary vigilance respecting the type of the case we have to deal with, and govern ourselves accordingly, we need have little fear but that a goodly proportion of our cases will be rescued from fatal endings. This may seem a strange declaration to make, but none of you, who have had years of experience in this latitude, will gainsay the assertion.

In connection with this part of the subject, it is hardly necessary to discuss the subject of fevers; you all know what they are, their grades and features, all calling for the same general line of treatment. We are not here to repeat what Wood or Watson, Eberly or Bennett, or even Flint, may have to say on the subject; they cannot tell us how to

treat fevers in this latitude, for could it be done to-day, and either one or the whole class be set down in our midst, I declare it to you, as a matter of opinion, that, in nine cases out of ten, the cases they might handle would be just as liable to prove refractory in their hands as they did with ourselves twenty years ago; this would certainly be the result until they became educated to the nature of the epidemic constitution of this intercontinental plain.

You say to me, why is it that you seem to rely upon quinia or its auxiliaries (for I must not forget to claim much credit for the virtues exhibited from the use of what is called, in the market, cinchonidia) as your sheet-anchor in your general practice? Simply because I have proven, to *my* entire satisfaction, that usually, in a paroxysm of fever, I get but little benefit from the administration of a cathartic; that during that stage it requires so much more to have the desired effect, and the stomach, heated, sensitive, and irritable, will reject the entire dose, and I have only distressed my patient and gained nothing; whereas, so soon as the fever relaxes, and the intermittent presents itself, I am sufficiently anxious to interrupt the *next* paroxysm to waste no time in waiting for the action of a cathartic, but promptly and boldly administer my quinia, and in nine cases out of ten the cathartic will not be required. For whenever the miasma is neutralized, by the influence of the quinia, and the biliary organs, before locked up, are now loosed, *their* secretions perform all the duties expected of the cathartic, and, besides this, about fifty per cent. of the disturbance to the general system is avoided. Who of you does not know of this by experience? Don't understand me as discarding the use of cathartics as a class; yet, I am free to confess that I am impressed with the belief that they are ofttimes used when it would have been far wiser not to have done so.

A party comes to consult you, who is ailing, with the common remark, "Doctor, I think I am bilious;" and upon inquiry you find he has taken any number of liver pills, and other ordinary remedies, and yet he is no better, but, on the contrary, declares that he is every day getting worse. You make a few general inquiries as to habits, sleep, appetite, etc., and observe the tongue, and if you take the guide that I am governed by — that of a gross, flabby tongue, impressed upon its edges by the forms of the teeth — you mentally conclude all this man requires is a few generous doses of quinine, and you prescribe accordingly. He takes your prescription, and, with the inquisitive propensities bequeathed to him by Mother Eve, he reads it. Quinine! "Why, Doctor, I don't have the ager; I am only a little bilious." "Well, what makes you bilious?" "Oh, I don't know." "Very well; didn't you take freely of cathartics?" "Yes." "And you was not any better?" "No." "Well, were they not anti-bilious pills?" "Certainly." "Well, did they cure you?" "No, indeed." "Well, now, how do you recognize me when you see me?" "Why, I know you by your features."

"Just so; and thus it is I know *your* existing difficulties, and what will relieve them; now, 'the proof of the pudding is in the eating of it;' if I cure you by my own course of treatment, you will acknowledge me in the right?" "Most certainly." The quinine is taken, and the result is, the patient comes back to you in a few days happy, and declares, "Well, Doctor, you *was* right; but I would not have believed a few doses of quinine would have lifted me up so quickly; never again will I condemn the use of quinine. Here I have spent dollars in medicine and advice together, and no benefit; however, I confess none of it went for quinine."

Yes, but, you say, why all this illustration?—this does not impart anything new. Very well; as I said before, we are not here to repeat what you have all heard long ago in the lecture-room, or drilled from your text-books—how Hunter discovered the circulation of the blood; how Jenner discovered the benefits of vaccination; or how Priestly discovered the properties of oxygen, and the part it plays in the great animal economy; or how and by whom chloroform—one of the Heaven-sent blessings that flesh is heir to—was discovered, or of the value of the iodides, bromides and sulphides, or what even the modern surgeon may, guided by his eye and the genius of this age, do with his knife—but what is practical medicine in the great Missouri valley, even the land called Kansas.

It is a nice point gained to say the right thing in the right place, or to do the right thing at the proper moment. Following up this assertion by another, I will say that it is of great moment to be able to diagnose promptly and correctly, and I must confess that many times cases present themselves to us that admit of no delay, and still would puzzle the wisest heads to decide upon a plan of action at once.

Burns, in one of his cross-grained moods, styled the toothache "the hell of all diseases." I have often thought he had never met the ague, or any of its kindred, for if there is any one element, acting as an exciting cause, that can bear away the colors from zymotic influence, then I have yet to make its acquaintance. It has more shades of character than had Joseph's coat of colors, and they were said to be many; and yet how readily controlled when early recognized. If, however, the practitioner fails to recognize this subtle element for a *single* twenty-four hours, he gives his enemy an advantage that often times costs him his patient, sometimes at the hands of grim death, or mayhap through the disaffection of the patient's friends.

Now I give it as my experience, that it matters not what the type of the case is presented to you, at your first introduction, look well to the evidences for zymotic complications. If your case carries the gross, flabby imprinted tongue, whether coated or not, the earlier you adopt the use of quinia the more certain you are of success. If you have plenty of time, and you should deem it expedient, you may give a cathartic,

but ten chances to one, if you administer your quinia first, that within thirty hours, free evacuations will supervene. This I have observed times without number.

I do not know that I can name a single disease, in acute form; common to this latitude, that does not call for this line of treatment: Coughs, colds, thoracic pains, pharyngeal troubles, earache, toothache, ophthalmia, rheumatism — acute or chronic, lumbago, erysipelas, diarrhea, dysentery, cholera morbus, and even urticaria.

Who has not seen, after an accident of any gravity, a sharp fever following at reaction. If the single paroxysm was all, then we could attribute it simply to reaction, but the paroxysms will return in due season and be repeated; and why? Because every one of us possesses sufficient latent zymotic principle within his system which, if allowed any opportunity by nervous prostration (whether from traumatic or idiopathic causes), will at once set up its despotic rule; and if you expect to succeed against such an enemy you must move as did Sheridan — "push things."

During the past eighteen months I have treated some two thousand six hundred and fifty-eight cases. Of this number, one thousand and eighty-six were of the characteristic fevers of this latitude, of intermittent and remittent type; some with gastric and some with enteric complications, but none with what I consider strictly typhoid features; at any rate, they yield kindly and readily to the treatment I have advocated, and thus, in my opinion, it puts an end to the controversy of typhoid fever for our latitude; by which I mean the typical typhoid fever of the East.

Of diarrhea and dysentery there were six hundred and fifty-six cases, all yielding to the same course of treatment, namely: the prompt and efficient influence of the quinine, with whatever collateral remedies might be indicated afterwards, or in conjunction, for I have quite often suspended my quinia in solution with simple or compound tincture of opium; with zinc, ginger and sub-carb. of bismuth in cases of diarrhea with copious watery discharges, adding the bismuth when attended with nausea. And for dysentery, the quinia and opiate alone. And right here let me say, that the opiate in my hands has been more kindly received by the largest proportion of cases, in the form of the camphorated tincture, so that I do not pretend now to use the plain tincture at all. My patient gets prompt relief enough, and escapes the nausea of the secondary effects of the opium, from the influence of the camphor and benzoic acid.

Relative to my treatment of fevers, almost invariably and during the last two years especially, my cases have been attended with headache of a greater degree of severity than it has been my experience to meet in the earlier days of practice. This has been a marked feature

during the past two years in particular, not especially in plethoric habits alone, which, had it been the case, might have led me to think, is it not possible we are again approaching the point in the great medical cycle, where the nature of the epidemic constitution would be portrayed as in the days when our fathers in the art of medicine felt it incumbent upon them to use the lancet first and the medicine second? But as I say, the neuralgic exhibitions were just as often tyrannizing over the lean and feeble, and of all grades of mental development; so that as yet I am at a loss for an opinion; nevertheless I am looking into the matter relative to what agencies may have a bearing upon the development, so far as my single experience shall go; and from the observations of the last year and the prospect of the present one, as to climatic influences, I am sanguine of success. I hope, at least in the near future, to give a good account of the time I make use of in doing so.

In the treatment of these particular cases I must say without taking time to enumerate remedies, I have derived the greatest amount of satisfaction from the bromides of any other remedies now in use. This of course is during the paroxysm of headache. After a partial subsidence of its intensity, should there be stoppage of the intestinal canal, I may give a cathartic. In the hot months, a saline—say a seidlitz, epsom, or a greater favorite of mine, Rochelle and cream tartar—two parts of the former to one of the latter. After which, if a good interval occur and the headache has subsided, I promptly and boldly administer my quinine. If, however, there still exists some lingering headache, and I feel that I have no time to lose, I combine the bromide of potassium, in quantity to suit, with my quinine, and proceed as before; or if my patient is much prostrated, and there should be great sensibility of the stomach, I use the bromide of ammonium instead, which is much milder, and more kindly received by the stomach, and still answers the purpose.

In the treatment of acute rheumatism, with all the remedies that first and last have been added to the catalogue, none have proved themselves so potent in my hands as the quinine; and I have tried about all, one time and another. Aside from the quinia, I will say that I have been more highly pleased with the results of salicylic acid than of any other one. Another favorite combination is quinia, iodide of potassium and citric acid, each twenty to forty grains with syrup and water (as a menstrua), each sufficient to make about six ounces, giving a tablespoonful every three hours daily, allowing the patient to have the night without disturbance. Should it be required, however, a full Dover's powder may be given at bed-time with salutary effect.

I have treated very many cases with quinia alone, in doses of from five to ten grains, and early in the disease it has been a favorite plan

with me to give Dover's powder in combination, given in capsule for convenience. I have kept them upon this plan of treatment for days together, until the effete poisons were being freely eliminated from the surface, then withdraw the Dover and continue the quinine until my patient convalesced and was about, lessening the doses from time to time in number and quantity until I suspend them altogether. The local treatment consists only in the application of the tincture of iodine to the swollen joints, which are sometimes dressed in a web of raw cotton or soft flannel, but as often with neither. When all active symptoms have been subdued, a warm bath of pure water and a change of clean garments and bedding is ordered, feeling that the enemy being under subjection, I may relax my vigilance.

In the treatment of erysipelas, I commence as soon as practicable with quinine, alternated with tincture of chlorinated iron, in doses of the former averaging about eight grains, and of the iron from one-half to one drachm, well diluted; each alternate third or fourth hour, as may be indicated, with nothing locally usually; but, if anything, I have finally concluded to use only the article known as vaseline, as being perfectly innocuous, and yet very soothing. I use it on all abraded surfaces, either simple or carbolated, or otherwise medicated. In its simple form, as a dressing to excoriated lips, eyelids, noses, hæmorrhoids. Spread upon a pledget of lint, and applied to an excoriated uterine os, or cervix, or the vulva, there is nothing, in my opinion, to supersede it. For burns or scalds, as a secondary dressing, or to irritable ulcers, it is of incalculable value.

In pneumonia, after due examination of all thoracic territory, and determining the conditions existing, I look secondly to any malarial complications, my first object being to prevent any supervening febrile exacerbation, which, if I can successfully prevent in the outset, leaves me the plain pneumonia, without any variation, to deal with. I have no special line of treatment that would be perhaps at all different from that which many of you adopt yourselves. I might mention, as a local application, where hepatization is extensive, with all its attendant pains of excruciating torture, the application of poultices of mush from ordinary cornmeal, applied hot to the naked chest, over the seat of the pain. Those of you who may have used them upon your suffering patients can well remember the expression of joy, and the hearty "God bless you, Doctor; what a happy relief you have given me;" and to the subsequent demand to make them hotter, when already the nurses are groaning with pain from almost blistered hands, the patient's tender skin scarce gives back a blush; but when, at last, it does come, then, with some soothing remedy to the surface, and a web of raw cotton over, my patient is already experiencing, figuratively, a new life.

In the treatment of coughs, colds, affections of the pharynx, larynx, and the tonsils, I look early to malarial taints, and as a local remedy,

aside from the ordinary gargles and washes of the day, I have obtained great satisfaction from the following original formula:

R. Potass. Chloras. } a.a. drachm ½.
Pulv. ext. Liquorice, }
Flos. Sulphur, oz. 2½.
Pulv. Ipecac, grs. 20.

Triturate well, and use a small amount upon the tongue dry, allowing it to dissolve slowly, and swallow at leisure. In cases of laryngitis with sloughing or diphtheritic discharges, or of tonsilitis, it is remarkable what relief and recovery will be realized from its use.

In cases of tardiness of the bowels or habitual constipation, either dependent on a want of tone to the muscular coat of the bowel primarily, or from a want of the proper amount of biliary secretion, I use a pill (also original with me) as follows:

R. Inspissated gall, drachms. 3.
Quinia, " 1½.
Pulv. Aloes, " 1.

Mass as you please. Fit pills to No. 100. Two of these pills given at bed-time, or one night and morning, or, if necessary, one three times (rarely required) a day, has in my experience corrected some of the most obstinate cases of constipation it has been my province to prescribe for.

With a few remarks upon my treatment of specific disease, and I have done. It is not the proper place to treat of this subject, but it is no uncommon thing in my province to meet cases that have become almost hopelessly prostrate from the diseases incident, and with all my best efforts I cannot get them above a certain level. Their systems seem to be so impoverished that they are almost irretrievably given over to the subtle principle which governs all our diseases. When, then, I find myself so much at fault, and obtain so little benefit from my usual line of treatment, I feel confident there must be another enemy behind all this, and upon close inquiry I seldom fail to find the party has first been reduced by the inroads of some grade of specific poison, imperfectly developed. You are all familiar with the many puzzling features such cases present; it seems to cover up almost as many penalties of the first sin as can well be calculated by figures. All manner of inroads are made upon the animal economy, and in ways that would scarce be believed. It would be useless to attempt to enumerate the features presented in the secondary and tertiary stages, and with the class I have been called to deal, for a few years past, it has become regularly a part of my examination to ascertain if they have ever been thus affected, and if so, at what time, its duration, and how long they were treated primarily. Thus when some affection is set up that is notoriously intractable, I have a guide to what may possibly be the indirect influence barring me from success. And by shaping my

course accordingly, I am enabled in the end, by persistency, to arrive at success.

I have sometimes met with cases in which the primary germs of the disease had been implanted so long before that the party had entirely forgotten the occurrence, or that the attack had been so trivial, and of so short duration, that they had been injured and not thought it worth while to adopt any treatment, while others had taken medicine for months, to guard against evil results, and supposed themselves safe, when here, after years, I find it necessary to adopt a thorough and decided course of treatment to reëstablish anything like a normal standard of health again. As to the remedies used in general practice, they are numerous. For myself, I rely principally upon iodide of potassium, and I persist in the use of it as long as the system has forbearance with it. I have placed cases upon a healthy basis that I candidly felt in the outset there was little use in wasting time and medicine with.

Understand me, this is not all the treatment, but it is my sheet-anchor. I may use preparations of iron — the chlorinated tincture, the tartrate of iron and potass, the pyrophosphate or the syrup of iodide of iron, vegetable bitters, and always a good, generous diet; the latter I consider of vital importance. No case, in my care at least, ever recovered under an antiphlogistic treatment. This dieting, in my estimation, is a kind of genteel way of starving, and for such cases the regimen will not be profitable.

To such topics as I have been able to refer, I have given you my own practical experience and opinions. Whether there be much that may differ from the experience of yourselves is not a matter of importance. If in this manner we come together and compare our practical experience and opinions, we shall at least receive strength from each other and enjoy a feast of reason.

If I have given you food for reflection, I shall have at least sown some good seed, and as it has most probably fallen upon good soil, I shall look forward to a fruitful yield of improved opinions at our next annual harvest.

REPORT ON ANÆSTHESIA.

W. W. COCHRANE, M.D., ATCHISON.

At the present date it would seem superfluous to speak of the importance of anæsthesia to the practice of medicine, as it has stood the usual test required of important discoveries, and to the satisfaction of a large majority of the profession its ability has been as thoroughly vindicated

as any other therapeutical question; but as there are yet many timid or cautious practitioners who deride and discourage the practice, it may be as well to at least attempt to palliate the crime of its bold and reckless advocates. Pain in the human organism, as an intimation of pathological action, is an intelligent beacon to warn the patient and guide the physician: without it, the former would be guilty of deleterious delay, and the latter in imminent danger of failing in almost every effort to relieve. Notwithstanding it is thus a boon to mankind, it is, of itself, a foe to health, which, if not modified, will most surely destroy the strongest physiological perfection. It is certainly the duty of the physician to endeavor to destroy or remove all pathological action in the human system, and in pursuance of this, we mutilate to mend, we cauterize to cure. The knife, the cautery, causes pain which gives a shock to the nervous system, serious and often overwhelming.

For ages this shock was the horror of the surgeon. The poor victim, worn down by disease, bandaged, held down by strong arms, was frightened to a degree that, in a large number of cases, would so depress the nervous system as to destroy all natural recuperative power. The question was not as to the propriety of an operation, but could the patient possibly survive the nervous shock. Opium, the great narcotic, was almost the only agent employed to combat this formidable enemy of operative success. But, instead of preventing this shock, it only induced delay; and, whilst restraining the monster, it insidiously weakened the functional action of the glandular organs to a degree that, when the secondary effects of an operation were approaching, the whole system was found to be in a pathological condition. Anæsthesia was discovered, and these questions no longer agitated the patient or influenced the mind of the operator—the patient was soothed by being assured that there was no fear of any danger; that he might sleep and be relieved. The physician, all apprehensions of nervous depression removed, could calmly devote himself to the anatomical and pathological peculiarities of his case.

Theoretically, it would seem to be absurd to question the fact that operative surgery has been more successful since, than before the employment of anæsthesia. Nevertheless, the question has been raised, and attempts have been made, to prove that deaths have been more numerous after operations. The controversy has been active for some time; but it would seem, at the present day, to be decidedly in favor of anæsthesia. In obstetrics, although war has been waged with force and persistence, there is now an acquiescence by all competent practitioners, in the use of anæsthesia. Those formerly opposed to its use are now confining their efforts to the elucidation of the best methods of giving, or the proper time to exhibit it. It has surprised the whole profession that no death in this branch of the practice has been attributed to this

cause. The reasons for obstetrical immunity are numerous, but they are contradictory, and have but left the question an unexplained mystery.

In reviewing the literature of this subject, it is surprising that the reports on the mode of action of so valuable a therapeutical agent have not improved since the first made. Morton gave ether in September, 1846, and in May, 1847, Prof. Simpson published an article, detailing facts gleaned from fifty cases. His deductions, made at that time, have not been decisively refuted, and although numerous experiments have been made, and many articles written, it would seem that the first report made by Prof. Simpson stands to-day on as safe a pedestal as the most recent one given.

Clinical, as well as post mortem, evidence seems clearly to attest the fact that anæsthetic poison acts by primarily stopping the respiration, and secondly by resting the heart's action. All the recorded typical cases of death clearly evince the fact that respiratory action ceases for a time before that of the heart, whether from syncope or paresis of the respiratory system. There are individuals of peculiar idiosyncrasy, or whose nervous system is so poisoned by torpidity of the secernant glands, that any additional stimulus to the peripheral nerves of the lung-tissue may suddenly cause paralysis, with relaxation, giving emphysema or causing spasmodic contraction of the arterioles sufficient to produce pulmonary apoplexy. In this primarily hyperæsthetic condition, the voluntary muscular respiratory power becomes reduced to a minimum, and death may occur from apnœa; or, another mode, the specific intense influence may be so great as to directly affect the brain and cause syncope, which, if not quickly remedied, will, as in the first mode, cause secondary cessation of cardiac action proximately in either mode from insufficient oxygen in the blood. In the former condition there is stertorous breathing and lividity of the face; in the latter, there is pallor with cold surface. There is no abnormal condition which would indicate a predisposition to it. We nearly always find it in the robust and healthy of middle age. It is conceded that the only requisite care is to watch closely the expiration, and at an early period induce full, free, voluntary inspiration.

The aural sense does not cease until the third stage is reached—in which there is but little, if any danger—and by firm and repeated command to the patient to breathe full and freely, it will in all cases prevent cessation of voluntary respiration—the only source of danger. After the voluntary respiration does cease, the only safe or reliable remedy is artificial respiration. All others have been decided to be useless, if not pernicious.

The great importance of this subject has induced for the last thirty years, much arduous scientific work. Experiment, argument and statistics have apparently been exhausted, and the result has been the

discovery of about thirty fluids entitled to the appellation of anæsthetics. All have been presented to us with apparently clear titles to our confidence, and each one, in the order of its discovery, has been declared superior, and deemed efficient and safe. None of them, however. have proved of more value than the two first discovered. Some writers who originally objected to the practice in any form, have, after having been driven to the wall, endeavored to cover their inglorious defeat by caviling loudly in favor of the one and against the other.

The question of the relative merits of ether and chloroform has been debated most actively, and the controversy still continues. There certainly have been more deaths recorded from chloroform than ether; but it is doubtful if the proportion of deaths to the number of administrations is greater in the one than in the other. Chloroform has been exhibited in a much larger number of instances, and by the ignorant and reckless, in consequence of its pleasant and decisive effects; all who have once taken it, or witnessed its exhibition, being easily induced to repeat it without fear. Ether has been given more rarely by the ignorant, as its effects, unless in the hands of the scientific, are so unpleasant that few could be induced to repeat it. It has been contended by high authority, that ether is a stimulant and chloroform a depressant. This vague term "stimulant" has been recently so roughly handled by scientists, that it is probable it will be discarded as a classification in the future materia medica. But to say that ether, inhaled, is a stimulant, when after one or two minutes of excitement it totally destroys sensation, as well as voluntary muscular power, is surely not in accordance with the accepted meaning of the term. To designate chloroform as a depressant, when there is no disease in which it is contra-indicated; when in the collapsed stage of cholera it has been continued for twelve hours with advantage, and when, too, there has been no case authentically reported in which it has produced death in the feeble or debilitated, is surely unwarranted.

The many absurd charges preferred by unscrupulous cavilers against chloroform having been satisfactorily refuted, it stands at the present day, with the profession, a therapeutical agent as potent and safe as that of any other active medicament. The pathological conditions in which it is indicated are now numerous and well defined. As an anti-congestive, it has a wide scope; it stands at the head of the list of anti-spasmodics; as an anti-neuralgic it is potent, and as a febrifuge it is destined to probably supersede very many heretofore relied upon. Those deemed most competent to decide the question have concluded that inhaling cones or sponges should be discarded, and that a closely folded handkerchief or fine napkin is the safest as well as the most convenient way to exhibit any anæsthetic. There is no definite dose of any one of them; inhaled freely to unconsciousness, is the only rule to be observed.

When electricity was trained and bitted by nature's master spirit, and forced down to soberly and rapidly work a thorough and momentous change in human affairs, an army of skeptics was at once mobilized to enter the field to decimate the great discovery. So it was with the next great boon vouchsafed by Providence to feeble humanity; the skeptical army, with strategy and sophistry, boldly and persistently attacked this Catheon power. As in the first instance, they soon ingloriously fled before the overwhelming array of truth, leaving anæsthesia as firmly established in medical as electricity is in physical science.

CASES.

REPORTED BY W. L. SCHENCK, M. D., OSAGE CITY.

Believing that many cases of general interest and worthy of record come under the care of every physician, I take pleasure in reporting several that seem to me unique.

I. *A Wound through the Thoracic Parietes into the Abdominal Cavity.*—April 1st, was called at 9 P. M. to see James T. Found him lying on the floor of the town hall, covered with wounds and blood, and upon examination discovered that one wound, below the left nipple, between the sixth and seventh ribs, and about two inches long externally, passed into the cavity of the chest and through the diaphragm, and through it protruded a small portion of intestine, of which there were several inches within the thoracic cavity, with what seemed to be a portion of the omentum. With considerable difficulty they were returned to their proper cavity, but with serious doubts about their remaining. The wound was dressed so as to leave ample room for drainage, the patient kept in the most favorable position for that purpose, and perfectly quiet with opiates, and under strict antiphlogistic treatment. He was discharged in four weeks, and has since enjoyed good health.

II. *Double Perforation of the Rectum to the Uterus and into the Urinary Bladder.*—On the 9th day of August I was called to see Mrs. C. Learned she had been under the care of a reverend doctor, who, a month before, had attended her in labor, and subsequently, until he informed her she would die in an hour or two. She was greatly reduced and had almost constant tenesmus, with a slight, bloody, muco-purulent discharge from the bowels, extreme tenderness in the left iliac fossa, and a very irritable stomach. Under a varied treatment, with the patient better and worse, I diagnosed, on the third of October, perforation of the bowels, and two weeks later constriction, with perfect occlusion for six days. On the 9th of November I was summoned, in

great haste, to my patient, and found her on the vessel and suffering from intense urinary tenesmus. Her pulse was not perceptible at the radial, and her countenance was anxious and sunken. I lifted her into the bed, but she immediately and urgently demanded the vessel, declaring she *must* void her water. I passed a catheter and found the bladder empty. She was not satisfied, and so urgently called for the vessel that it was placed beneath her, when, after a few moments of violent tenesmus, she expired.

Six hours after, assisted by Doctor Mossman, I made a post-mortem examination. We found the rectum, three inches below the sigmoid flexure, adherent to the uterus, with a cicatrix penetrating it to that organ. This lesion accounted for the diagnosed perforation, whilst the adhesion prevented discharge into the peritoneal cavity and the more serious consequent symptoms, and made me doubt the correctness of my diagnosis. Immediately above the adhesion was a circular constriction, with bands almost closing the bowels. Just below the sigmoid the bowel was adherent to the urinary bladder, with a perforation extending into that organ, which contained a small portion of fecal matter.

III. *Separation of the Symphysis Pubes and the left Sacro-illiac union.*—October 4th, was called to see Charles T.. who had been injured in the mine. The vein of coal is thin, and worked by the miner lying on his side, with the roof almost in contact with his body. A large mass of the roof had fallen across the right hip of the patient, and no one being near, he had made violent efforts to extricate himself, lifting at the weight with the handle of the pick while he wrenched his hips beneath it. After several hours, he was discovered and rescued in a state of extreme exhaustion. Upon examining him, I found he had loosened the pubic symphysis and the right sacro-illiac junction, so that upon rotating the leg the entire right illium was rotated, and its movement could be distinctly felt at both the points of separation. I had a girth made of broad webbing, which, profusely padded, was buckled firmly around him; and in twenty days, without any untoward symptoms, I was gratified to find a solid pelvis.

IV. *Cancer, with Perforation of Colon into the Womb.*—Was called to see Mrs. S., of Burlingame. Diagnosed incurable cancer of the uterus, and advised her to employ a physician nearer home. Some time afterward, was invited by Dr. Haller to be present at her autopsy. Learned that for a number of days nothing passed her bowels, and that, subsequently, fecal matter was discharged per vagina. We found the colon enormously distended with feces, and opening into the womb near the left fallopian canal, the left side of the womb soft and sadly disorganized, the right enlarged and indurated. and the neck covered with nodulated tumors of various sizes.

REMARKS ON SOME OF THE RECENT ADVANCES IN OPHTHALMOLOGY.

BY B. E. FRYER. M. D., SURGEON, U. S. ARMY.

I propose, in the present paper, to give a brief statment of some of the recent advances in ophthalmology, and, first of all, as to glaucoma. This disease has received, and is receiving, the attention of a number of workers, with the direct object of ascertaining its immedate and primary cause, and the most successful treatment. It had been recently suggested that in glaucoma there was almost, if not invariably —as a part of the disease, and probably as the essential cause—an obliteration of the space of Fontana; that this obliteration so interfered with the proper balance between the pressure and absorption of fluid of the aqueous as to cause the increased intra-ocular tension, which increased tension, as is well known, is the essence of the disease. Prof. Schnabel, of Insbruck, one of those who has worked in this direction, in a paper published in Knapp's Archives, puts the following queries (see Knapp's Archives, Vol. VII., No. 1, page 22):

"1. Whether the obliteration of the sinus of the chamber is characteristic of glaucoma, and only found in this disease.

"2. Whether the infiltration of the columnar tissue in Fontana's space is peculiar to glaucoma.

"3. Whether this infiltration has to be regarded as the result of an inflammation of this tissue.

"4. Whether the obliteration of the sinus of the chamber has to be looked upon as a consequence of the inflammation, or how else does it take place.

"5. Whether it is necessary that glaucomateous symptoms follow the infiltration of the columnar tissue of Fontana's space, and the obliteration of the sinus of the anterior chamber."

These queries are answered by Schnabel in the negative, after examination and description of the result of a number of glaucomateous eyes; and the practical bearing and interest is, that while in a majority of the cases (at any rate) of acute glaucoma this condition of the obliteration of the so-called space of Fontana will be found, that cases of what Schnabel calls acute, non-inflammatory glaucoma occur, in which no trace of interference with the integrity of the Fontana's space, or, what is practically a part of it, the Schlemm's canal, can be discovered. Hence, though the discovery of the fact of this condition of obliteration, which undoubtedly arises from inflammation and infiltration of the columnar tissue of the space of Fontana, may be looked upon as a concomitant, at any rate, of glaucoma, and possibly in many instances a cause of the glaucomateous process, its existence cannot be looked for as invariable. But, as a step, which was made in demon-

strating the condition of obliteration, and which was, after the discovery, supposed to exist as a cause in all cases of glaucoma, has resulted in a further advance, inasmuch as the *proper* estimate as to the condition being had—for, while this obliteration of the space of Fontana may be, and probably is, in many cases the direct cause of the essence of the disease, namely, of the glaucomateous tension, in other cases it is not found—and there is yet to be discovered something further as a supplementary cause for this peculiar eye trouble.

The effect of the cause which produces the increased intra-ocular tension, and how and why this tension is so destructive, have been, of course, long understood by oculists; but there is yet ample room for further work, and an effort is being directed to ascertain the *exact* cause of this disease, which has so many ways of working, and with such differences as to the time in which it takes in its destructive progress.

One of the direct advances in treatment, and successful treatment, of glaucoma that has been made from our knowledge of obliteration of the Fontana's space is the use of eserin, an alkaloid of the Calabar bean (the physostigma venenosum,) the obvious effect of which, as you know, is to contract the pupil, and in some few cases, while doing so, will, if the effect be pushed, stretch the iris and pull upon its periphery, as it were, and thus break up any adhesions there, and restore the Fontana's space, and remove the interference with the Schlemm's canal.

Prof. Laqueuer, of Strasburg, in 1877, first called attention to the "anti-glaucomateous" effect of this drug; and since that my friend Prof. Knapp, formerly of Heidelberg, but now of New York, in the first number of the seventh volume of his Archives has published 'Some Observations and Remarks on the Use of Eserin in Glaucoma." In two cases given by Knapp, one had acute glaucoma of one eye, and this was cured by the use of the eserin. In the second case the action of the remedy was for the time markedly favorable, but relapses occurred, and iridectomy had to follow. While the eye was recovering from the operation, its fellow became glaucomateous, but the symptoms were at once removed by the eserin; these symptoms again returned with greater intensity, and were again relieved by the eserin, and iridectomy was done, with permanent cure.

In cases of sub-acute and chronic glaucoma it is found that eserin produces no benefit, and in some instances, in cases of these forms, the remedy has seemed to provoke an attack of the acute character.

Prof. Knapp's experience with eserin, arrived at from the cases published in the paper I have referred to, is that in some few cases of acute glaucoma a cure may be expected; that in the sub-acute or chronic forms the remedy should not be tried, as it will not benefit, and may do harm.

When used in acute cases, and a complete myosis does not soon follow, and there is not a normal intra-occular tension soon brought about

the operation of iridectomy should speedily follow, as the disease will probably not be affected by the remedy. In chronic glaucoma the remedy should not be tried.

Eserin has another use which readily suggests itself. In cases where there is ulceration of the cornea near the periphery, and perforation is threatened, or where the perforation has already occurred, a prolapse of the iris in either case is feared, the eserin, by contracting the pupil and carrying the iritic curtain away, removes the risk of synechia. When peripheral synechiæ have already formed, the remedy should be tried also.

I show you here some of the alkaloid — the sulphate. For use in glaucoma, a two-per-cent. solution has been found the proper one; this is instilled, a drop or two at a time, every hour or two, till the full effect is reached, which being attained, the interval between the applications is increased. With the object of simply preventing synechia, a weaker solution would be advisable.

The question has been under consideration for some little time as to whether the operation of iridectomy for the cure of glaucoma is entirely satisfactory. It is known that it gives very favorable results, but there are undoubted cases which occur, in which when the operation is done for glaucoma of one eye, it would seem that an attack of glaucoma is rapidly precipitated in the fellow eye. One other objection — and it is a strong one — has been urged. I refer to the effect of coloboma, which is that the iris can no longer act as the stop of a microscope does in shutting off peripheral rays, nor in diminishing the excess of light, and we have dispersion circles formed on the retina, and, in consequence, a diminution of acuteness of vision. Moreover, too, after the operation, the change in curvature of the cornea will make a change in the refraction.

Now what have we that is reliable that can do as much service as iridectomy in arresting the glaucomateous process, and yet will neither provoke the disease in the fellow eye, nor diminish vision by the effect of the coloboma iridis?

In place of an iridectomy, the operation of *sclerotomy* has been proposed. The operation, strange to say, was first recommended by McKenzie, as long ago as 1830, but received no attention. "The first recommendation, since McKinzie's time, of a true sclerotomy — that is, a more or less extensive incision in the sclera without harming the ciliary body — was only conditional." "If it were possible," DeWecker said, in 1867, "to make a large incision in the sclera, near the edge of the cornea, without causing an adherence of the iris, we should wholly abstain from touching that membrane"— meaning that the removal of a piece of the iris would be unnecessary. In 1868, Stellwag reported two successful results of sclerotomy. Quaglino, in 1871, published the result of five sclerotomies for glaucoma. Mauthner has, in the last

number of Knapp's Archives, considered sclerotomy quite fully, and gives a good history of the operation. He quoted a number of cases of other operators, and gives in several cases his own experience and recommendations, with a very full description of the technique of the operation; and this last I will briefly describe "the important points" of. Before operating, the full effect of a one-per-cent. solution of eserin should be had. It is better not to use an anæsthetic, which may cause coughing and straining, and thus produce a prolapse of the iris, a condition to be studiously avoided. If the patient can be controlled, the sclerotomy should be made upwards. The Graefe cataract knife is to be used, and this is entered, its cutting-edge upwards, in the sclera at its temporal side, at 1 mm. from the cornea, as if about to make a scleral flap, and about 2 mm. below a horizontal tangent carried to the upper point of the circumference of the cornea. The knife is carried across the ant. chamber, carefully avoiding wounding the iris, and a counterpuncture made at a point corresponding to that of entrance. The knife is pushed forward, slowly, as long as the iris tends towards the counterpuncture, then the knife is to be withdrawn very slowly and with a sawing motion. The flap is now completed. We thus have two incisions, and it will be found that their extent taken together will be greater than ordinarily in the single incision of an ordinary iridectomy. One precaution is to be remembered: the knife is not to be withdrawn until the aqueous has escaped, as in this way we are more likely to avoid prolapse of the iris.

The after treatment consists in putting a drop of the eserin solution and applying a bandage with charpie compress. This bandage should, in a few hours, be removed and the eye examined, and more eserin applied. The patient must be kept quiet in bed, in a well-ventilated room, for at least two or three days.

Now I have dwelt somewhat upon glaucoma, and it may have seemed tedious and be considered as a subject of little interest to you as general practitioners, but I can assure you it is a disease which occurs quite frequently, and in one of its forms (the glaucoma fulminans) vision may be destroyed in a few days, and sometimes in a few hours, and if you are not prepared to act promptly, you may regret it. I have hoped that in calling your attention to some of the recent advances in the knowledge of the disease you may be induced to consider the matter and be prepared to recognize the trouble, and for your reputation's sake, be able to point out the danger of it to your patients when they consult you in regard to this peculiar disease of the eye.

To Dr. Bancroft, of Brisbane, Australia, we are indebted for the first description of a new mydriatic, namely, duboisia, obtained from a small tree, the *duboisia myoporoides*, which grows in Australia. Dr. W. F. Norris, of Philadelphia, in the April (1879) number of the *American Journal of the Medical Sciences*, publishes an admirable paper on duboisia, and gives several experiments as to the mydriatic properties of

the drug, as well as to its physiological and toxic effects. As a mydriatic, (to which our attention here only is needed,) Norris says, as compared to atropine: "The action of duboisia is, however, much more rapid, and we attain usually in adults a full dilation of the pupil in from twelve to eighteen minutes; while in the same individual, an equal quantity of atropia requires from twenty-three to thirty minutes to produce the same results." And in regard to paralyzing accommodation, it acts in about half the time required by the atropine, and that these effects of the duboisia pass off more quickly. It can be readily understood, therefore, that these rapid effects and their shorter duration are very advantageous in cases where they are produced for the purpose of exactly testing and estimating the degree of ametropia in any case. When, too, as sometimes happens, there is a peculiar idiosyncrasy which precludes the use of atropine from the irritant effect produced by it, the duboisia may be advantageously substituted. The duboisia sulphate was the form of the alkaloid used by Norris, and in the proportion of four grains to the ounce of water.

I will briefly allude to one other drug, the application of which in general medicine you are doubtless more or less familiar with. I refer to pilocarpine, an alkaloid of the jaborandi. It has received some attention from ophthalmologists for two or three years, and though its effects upon the eye have not yet been fully determined, it is believed that it will prove to be a remedy of value in some few ophthalmic diseases, and in relieving the results of certain injuries.

Dr. Landesberg, now of Philadelphia, has published in the *Philadelphia Medical Times* of April 26, 1879, a very interesting paper on "The Therapeutic Use of Jaborandi and Pilocarpine in Eye Diseases." He gives several cases in which it would seem that the effect was marked as to promoting the absorption of inflammatory exudations, and also of extravasations of blood. If this is, as it would seem to be, one of the invariable effects of the remedy, theoretically it ought to be of benefit in glaucoma also.

As an improvement in operations on the eye, I would mention one of Prof. Knapp's, which, though very simple, is of great importance. In cataract extractions (Graefe's linear operation), one difficulty had was that with the ordinary method of lacerating the capsule, more or less cortical lens substance remained, and frequently became the cause of inflammatory troubles, which led to the loss of the eye. Knapp recommends that the cystotome be carried so as to incise the lens capsule at its periphery in such a way and to such an extent that the incision shall, as nearly as possible, correspond to the incision in the sclera and corneal section.

The following is the synopsis of the result of his method in twenty-nine cases:

"1. The wound in the capsule united mostly during the first night; in like manner the wound on the cornea.

"2. Remnants of cataract, if there were any, lay shut up in the capsular bag, and what is remarkable, were gradually absorbed in the same manner as when the capsule is opened.

"3. The irritative symptoms on the part of the iris were either exceedingly light, or, in the majority of cases, totally absent.

"4. In some cases the capsule cleared up completely; in the majority of cases, however, the capsule showed a slight vertically parallel wrinkling, proceeding from the horizontal scar.

"5. In all but two cases the recovery was uninterrupted and perfect."

In regard to the application of the antiseptic method to operations on the eye, several very favorable reports have been made; and while, with the use of our now common germicide (carbolic acid), the range of usefulness must, from the circumstances of the delicate nature of the organ, and the somewhat irritative effect of the carbolic acid, be somewhat limited, still the antiseptic method has, so far as known, been very successful where carefully adopted.

A very interesting paper, giving a report of two cases of penetrating wounds of the sclerotic, in which the carbolized cat-gut suture was used, is published by Dr. Kerzendorfer, of Vienna. In one of the cases the wound—a widely gaping one, and which was produced by glass—commencing at the corneal margin, and running inwards and backwards for about a centimeter and a quarter; the iris was prolapsed and some vitreous extruded. After snipping off the torn portion of the iris and of the vitreous, the wound was closed with three cat-gut ligatures; and they were not passed through the sclera only, but through the entire thickness of the tunics, and of course the ciliary body also. Hemorrhage very slight; no reaction; wound healed per primam; and three months afterward vision was 20-70. In the second case the wound was of about same length, but more vitreous had been lost. Three cat-gut sutures were applied, one of them through the entire thickness of the coats of the eye. Union immediate, and though a most unfavorable case, the vision retained was sufficient to count the fingers at 1½ feet.

A FEW PRACTICAL THOUGHTS ON THE USE OF CHLOROFORM.

BY R. MORRIS, M.D., LAWRENCE, KANSAS.

Two or three years ago, it was the pleasure of this Society to ask me to present a paper, at the ensuing annual meeting, on "Practical Medicine." For reasons that I do not now remember, I was not present on that occasion, consequently did not furnish the essay called for. Partly to make amends for that negligence, but mainly to add, if possible, a small contribution to the interest of this meeting, I beg leave to

offer a brief account of the following cases which came under my care, the principal means of treatment, and the results.

CASE 1.—*Puerperal Insanity.* April 6, 1872: Was called four miles in the country to see Mrs. W. R. S. On entering the patient's room, I beheld the most frightful-looking object I ever saw. The most aggravated cases of delirium tremens with which it had been my misfortune to come in contact, were mild in comparison. Eight days previously the patient had given birth to a medium-sized male child; no unusual symptoms attending the labor. Four days after her confinement, symptoms of insanity began to make their appearance, and soon assumed a violent form. A homœpath of Lawrence was first in charge of the patient; but, after four days of unsuccessful treatment, frankly informed her friends that he could do nothing more for her, and that she would most surely die. Not willing to let his wife die without further efforts to, if possible, obtain relief, her husband sent a messenger for me to come and see her. Accordingly I visited her, and found her in the condition before stated. Her eyes fairly flashed and sparkled with fierceness, her screams hideous, and countenance haggard, and only by main force could she be restrained from pulling her hair and tearing her clothing or bedding. Manifested a strong desire to spit upon or in the faces of her attendants. If offered anything to eat or drink, would make special effort, after you put it in her mouth, to spurt the same back into your face. Would also use the most obscene and profane language possible for her to utter. I was informed by the friends present that she was a very pious and devoted member of the Christian church. I learned from her husband that she had been in this condition about four days, without food or drink, and that every effort to induce her to swallow any medicine had failed. During all this time she had not closed her eyes to sleep; and, further, that it required two or three strong persons to restrain her from doing violence to herself or those around her. Took no interest in her babe.

I should only weary you, perhaps, by attempting a more minute statement of the symptoms of this interesting case. I shall, therefore, come at once to the chief point of interest to me, and, I may presume, also to every earnest medical man, namely: What shall we do in a case where the ordinary means at our command fail us? Of course, with a hypodermic syringe at hand, our first impulse would be to use it; but, fortunately (perhaps), I did not have one with me. For a moment I confess I was at a loss to know what to do. Having so often seen such happy effects from chloroform, in convulsions and like diseases, it occurred to me that if I could bring my patient sufficiently under its influence to control her mania, I could succeed in making her swallow medicine; and, also, drink and food, if necessary. Accordingly I proceeded to carry out this suggestion, and was very much gratified with the success which followed. As soon as my patient was quiet from the

chloroform, I gave her about twenty grains each of bromide of potassium and chloral, which she swallowed without any difficulty. I sat by her bedside, and whenever she manifested any symptoms of returning restlessness, I would repeat the anæsthetic. In about an hour I repeated the bromide and chloral. Soon after the second dose I was pleased to observe indications of drowsiness, and a third resulted in several hours' profound sleep. In the meantime I ordered some gruel prepared, and had already given her, at short intervals, several teaspoonfuls before sleep was produced. While she seemed to be resting so nicely before me, I could not help thinking that I had struck (so to speak) the keynote in this case; besides, it was so gratifying to witness the satisfaction of the husband and friends. I now took leave of my patient for the night, after giving to her husband, who was a very intelligent man, full instructions how to manage the patient with chloroform, if she should require any before my return next morning, continuing the chloral and bromide, in small doses, every two or three hours during the night, or oftener, if necessary to keep her quiet. I visited her very early next morning, and was pleased to learn that she had rested reasonably well throughout the night, and already began to manifest some evidence of returning reason and consciousness. Following up the same course of treatment heretofore mentioned, *ad libitum*, during the day and succeeding night, I found her next morning quite rational—would answer my questions intelligently, take food and drink, and care sufficiently for her babe to allow it to nurse. Under mild tonics and occasional small doses of chloral and bromide, she had a rapid and perfect recovery; has given birth to two children since without any symptoms of a return of insanity.

CASE 2.—*Puerperal Convulsions.* This case, although very different in its nature, will, to some extent, illustrate the same practice. May 8, 1877: Was summoned in great haste to see Mrs. C., a German lady; very large and fleshy; pregnant, and expecting soon to be confined. Was informed that she got up in the morning as well as usual, and while about her work became dizzy, called for help, was taken to her bed, and immediately had a convulsion. An eclectic was first called, and saw her about nine o'clock A. M. She was having a convulsion every fifteen to thirty minutes, with some return of consciousness between paroxysms. Before noon, however, she was wholly unconscious, and unable to swallow anything. I saw her about five o'clock P. M., and found her in a profound coma, stertorous breathing; tongue contused and very much swollen, protruding between her teeth; face flushed; eyes red, and weeping; could swallow nothing; convulsions almost continuous. Was told by the doctor that he thought she occasionally had light labor-pains. Put my hand upon the abdomen and observed very firm contraction of the uterus, and proceeded immediately to make a digital examination; found the os soft, and sufficiently dilated to allow of the introduction of the hand,

and before my hand was withdrawn had resolved upon what I would do. I told the doctor what I thought ought to be done without any further delay, namely, first to chloroformize the patient, give a full dose of chloral and bromide of potassium, and then to remove the child as soon as possible, by the process of turning; at the same time expressing my opinion to him and the husband that I feared our best efforts would not save the woman's life. Administered the chloroform, which acted promptly in relaxing the convulsions, and permitted her to swallow a full dose of chloral and bromide readily. Hastily had the patient placed in position for the operation of turning, which I accomplished very easily, removing a living child, and in due time the placenta—not occupying altogether more than twenty minutes, to the great surprise, not only of the friends, but the doctor. But what was the most gratifying to myself, the patient ceased to have any more convulsions, and by noon of the following day was nearly restored to consciousness and reason, and finally made a good recovery.

The chief object in reporting these cases is to speak of the administration of internal remedies while the patients were under the influence of chloroform, when our efforts had failed to do so without it; and if the suggestion should be of use to any member of this Society, I shall feel amply rewarded for my trouble.

CASE OF CHRONIC DISLOCATION OF HIP JOINT.—REDUCTION SUCCESSFUL.

BY C. V. MOTTRAM, M. D., LAWRENCE.

Cases of chronic dislocation of the hip joint are occasionally brought to us, and the question arises, When should such displacements be considered irreducible? Sir Astley Cooper asserts that, as a general rule, it is imprudent to attempt restoration after the eighth week. Dr. Gross says: "I believe this opinion to be, in the main, correct, but that it is, moreover, *certain* that many cases will resist all attempts at reduction long before that period."

Without mentioning the circumstances and considerations which should influence the surgeon in his decision to attempt or decline interference, I will merely say, he must decide for himself, after a careful examination of the individual case, what are the probabilities of success, and if the *risk* is not *too* great he is justified in making the attempt at reduction at almost *any* period.

A case of dislocation of the hip joint was brought to me on the first day of October last, of four months' standing, the displacement occur-

ring on the first day of June. The subject was a boy, nine years of age, J. Clay—intelligent and active, and in good health. I show you photographs representing the anterior and posterior view of the lad standing. The luxation was that *very rare* one, "dislocation on the pubes," the head of the femur lying upon the pubic bone and the iliac, above Poupart's ligament, between the anterior superior spinous process of the ilium and the femoral vessels, under cover of the psoas and iliac muscles. The displacement was produced in the following manner: The boy was playing on a pile of lumber; a single tier of narrow boards, with laths between; the lad's weight on the edge of the pile toppled it over; he fell on his back, his knees being drawn up and thighs flexed on the body; the lumber fell upon one knee—the left—in this position, flexing the thigh still more upon the body, and at the same time carrying the knee outwards; the head of the femur ruptured the upper and inner portion of the capsular ligament, slipped out of the socket and found lodgment as before stated; the buttock was flattened on that side; the foot and knee were very much everted, and widely separated from the other limb. Adduction and rotation inwards was impracticable. The limb was about half an inch shorter than its fellow. A very excellent *new* capsular ligament had been formed around the head of the femur in its new location. The acetabulum was filled, probably with organized lymph. There was no pain or tenderness, and the boy was as agile as a deer—the only inconvenience in locomotion being the necessity of using the hand and arm as a brace on the knee to prevent the flexing of the thigh on the body when weight was put upon it. Assisted by Drs. J. H. Stuart and F. D. Morse, I reduced the dislocation on the second day of October, by manipulation, under chloroform. I flexed the thigh strong on the pelvis, at the same time adducted the limb with sufficient power to break up, or tear asunder, the new capsular ligament, then drew the leg downwards, and at the same time rotated it inwards; the head of the femur was dislodged from its position in the groin, and slowly found lodgment in the acetabulum—the reduction being complete. Considerable infiltration followed the laceration of the new-formed capsular ligament, and ecchymosis appeared upon the abdomen, extending some two inches or more above Poupart's ligament; acute inflammation supervened, extending to the peritoneum, necessitating the most active and positive treatment for peritonitis—calomel, opium, etc., with anodyne and saturnine lotions to the inflamed parts. There was no tendency to displacement after the reduction, and I put on no dressing, except a towel around both knees. This soon became unnecessary. There was considerable tenderness and pain over the great trochanter for some days after the reduction. Everything progressed favorably, and in two weeks the boy was able to ride with me in my carriage, though I did not permit him to bear any weight on the limb. The recovery was rapid, and in less than six weeks after the reduction he was reported "perfectly well."

A SPECIMEN OF SACCIFORM ANEURISM OF THE AORTA.

BY C. V. MOTTRAM, M.D., LAWRENCE, KANSAS.

HISTORY.—William Banks, one of the early settlers of Lawrence, during the early part of October last was out in the country with his aged father. While there, some unruly cattle broke into a wheat field and were damaging the crop. Mr. Banks went to drive them out. He had trouble in getting them out of the field, and ran after them. While running he felt something "give way" in his chest, and as he stopped, it "choked down." Had to stop and sit down; experienced great difficulty of respiration, which, in a degree, improved, but never entirely disappeared. He remained several days longer in the country, and was then brought home to Lawrence. The dyspnea became very great—much like a severe paroxysm of asthma—and continued till the 18th of October, when he died—two weeks after the over-exertion. I was satisfied it was a case of aneurism of the aorta, and obtained permission to make a post-mortem examination. The result of the examination I show you—a very perfect specimen of sacculate aneurism; the rupture being in the transverse aorta, near its center—posteriorly—directly in front of the trachea, and between the origin of the innominata and the left carotid. In the specimen as you now see it, there is no vestige of the tunics of the sack on the side next the trachea, the trachea itself making the posterior wall of the aorta. The pressure upon the trachea must have been great, and satisfactorily accounts for the asthmatic breathing. Mr. Banks was fifty-four years of age; had always been *remarkably* healthy, but *intemperate*. No doubt this habit, long continued, produced degeneration of the arterial tunics. The vessel thus weakened and deprived of its elasticity, was unable to resist the inordinate impulse of the blood, the consequence of the severe muscular exertion.

An examination of this pathological specimen shows that Mr. Banks, at some period not very old, had aneurism, and for the time, recovered. The location of this old aneurism was at the highest part of the ascending aorta, just beneath the origin of the innominata. This sack is composed simply of the external tunic, the inner and middle having given way either prior to or during the development of the disease. This *sack* was filled with a fibrinous concretion—dense and inelastic—which effectually prevented the bursting through of the current of blood at this point. Mr. Banks was a man of sedentary habits, a clerk; had his occupation been more laborious, he might have died some time before from this aneurism. The pouch on the posterior portion of the aorta shows how beautifully nature attempted to afford relief by setting

up inflammation and pouring out plastic matter in and around the parts and structures, *gluing them together*, increasing their thickness, and thus enabling them to resist the rushing current of blood, and for a time, at least, staying the hand of the destroyer.

TRANSACTIONS, 1880.

LEAVENWORTH, KANSAS, May 11, 1880.

The fourteenth annual meeting of the Kansas Medical Society convened at the hall of the Academy of Science, Leavenworth, May 11, 1880, at 2:20 P. M., and was called to order by the President, C. C. Furley, M. D.

On motion of Dr. Stormont, the reading of the minutes of the last meeting was omitted, and they were adopted as printed.

On roll-call the following members were present: Drs. Adamson, Bell, Blakeley, Cochrane, Craig, Dickman, Furley, Fryer, Floyd, Goddard, Grass, Guibor, Haller, Hannawalt, D. C. Jones, Lee, Morris, Morse, Mottram, McCully, J. A. Maggard, McHugh, Neely, Ross, Randell, Sinks, Stormont, Shoyer, Speck, Scaman, Thomas, Wagstaff.

Dr. Fryer, chairman of Committee of Arrangements, delivered the following address of welcome:

On behalf of the Committee of Arrangements, I greet the members of the State Medical Society, and give them a hearty welcome to Leavenworth city. The committee is not only glad to see our old members of the Society who have been present at the meetings very regularly, but it is also delighted to find many of our newer members present among us here.

Gentlemen, these annual gatherings can be of benefit to each and all of us. We medical men need more than all the other professions a rest, and we need, too, frequent association with one another. Not that I mean that we are as apt as other men of other professions, to get into a routine method of thought and action, for I don't believe that. I think from our mode of thought in investigating disease, we are less apt to get into a limited kind of thinking, or into a circumscription of ideas. But though this may be true, all are improved by mental attrition; and we, as medical men, are not an exception to that. These annual meetings, besides giving us a chance to compare our works with those of others, allow us to hear often our own ideas and practice confirmed and strengthened, and each doing his part of the common work, cannot but derive and give benefit. Above all, I believe that every one of us attending these meetings has the advancement of medical science for the relief and prevention of disease uppermost in his thought. I include the prevention of disease, for we are as conscientiously working in that as for its cure; and could we but get our legislative bodies to carry out the hygienic measures, as recommended by sound medical men, disease would be reduced to nothing, and life prolonged even more than it has been.

We, the Committee of Arrangements, hope and trust that our meeting here will be both a pleasure and profit mentally, and we give you all a hearty welcome.

Dr. Furley then delivered the President's Address, which on motion was referred to the Publishing Committee.

On motion of Dr. Stormont, Dr. E. W. Schauffler, of Kansas City, was elected an honorary member of the Society.

Dr. Fryer stated that the Committee of Arrangements had procured a stenographer, and moved that he be engaged for the meeting. Carried.

Drs. Floyd, Grass, and Hannawalt were appointed to fill vacancies on the Board of Censors.

Petitions were received from the druggists of Atchison and Leavenworth, asking the coöperation and assistance of the Society in forming a State Pharmaceutical Association, and the following resolution was adopted:

Whereas, The State Medical Society recognizes the fact that success in the practice of medicine depends largely upon the skill and conscientiousness of those who prepare the various remedial agents used by the profession; and that *whereas*, an effort is now being made to form a State Pharmaceutical Association: therefore,

Resolved, That the Kansas Medical Society cordially indorses this movement, and earnestly urges upon all pharmacists in good standing to lend their aid in furthering this object.

The Board of Censors reported favorably on the petitions for membership of the following: Drs. E. Abeles, Fort Scott; F. M. Daily, Scottsville; V. F. Christiancy, Springdale; James Hutchinson, Leavenworth; C. C. Stivers, Eden; L. J. Lyman, Manhattan; J. F. Scott, Holton; W. J. Van Eman, Tonganoxie; Samuel F. Few, Leavenworth; George M. Gray, Quindaro; W. M. Seip, Atchison; Jacob May, Topeka; C. F. Smolt, Nickerson.

On motion of Dr. Thomas, the report was adopted, and the Secretary directed to cast the ballot in favor of the applicants.

The Secretary presented his report, as follows:

I have the honor to submit the following report for the year ending May 10, 1880.

In publishing the Transactions for the year 1879, some delay was experienced, owing to members not sending in their papers promptly, and in transmitting them to and from the members of the Publishing Committee. Two hundred and fifty copies were printed for the Society, and fifty extra copies for members who paid the Treasurer the actual cost, $7.50. The amount paid for the whole was $110.

Copies were sent to the principal medical journals of the country, and I have exchanged with the societies of sixteen States, the Transactions of which I have preserved as the property of the Society. The number already received is twenty-five.

Reduced rates for the members attending this meeting, amounting to one and one-fourth regular fare for the round trip, have been obtained from the following roads: the Kansas City, Fort Scott & Gulf; Kansas City, Lawrence & Southern; Kansas Central; Atchison, Topeka & Santa Fé; Kansas Division of the Union Pacific, and the Missouri Pacific.

Charges and specifications against P. Dougherty, of Junction City, were filed with the Secretary by the State Board of Examiners, on November 4, 1879. I at once forwarded a copy of the same to the accused, and notified him that the trial would be had at the present meeting, before the Board of Censors.

I have received communications from Dr. E. Sequin, of New York, in regard to the Metric System, with the request that I bring the matter before the Society, with a view to its adoption. These papers I lay before you.

In addition to the regular notices to the members, at the suggestion of the President I prepared and sent out 450 invitations to regular graduates, a list of the same being kindly furnished by Dr. Neely, Secretary of the State Board of Examiners, with the hope of inducing all the regular physicians to coöperate with us in making the Society an honor to the State of Kansas.

I have incurred expenses in behalf of the Society, of which the following is the statement:

KANSAS MEDICAL SOCIETY, *To F. D. Morse, Secretary,*	*Dr.*
1879. To expressage on MSS	$0 50
" postage on 200 Transactions	6 00
" envelopes and bands	1 40
" postage on 35 Transactions	1 05
1880. " printing, as per bill	9 00
" 450 stamped envelopes	5 55
" stationery, postal cards, etc	4 00
Total	$27 50

The Treasurer also submitted the following report:

LEAVENWORTH, KANSAS, May 11, 1880.

W. W. COCHRANE, Treasurer,
In account with Kansas Medical Society.

To balance on hand, May 13, 1879	$71 40	
To amount dues received to date	495 00	
		$566 40
By amount paid C. C. Furley	$16 40	
By amount paid F. D. Morse	10 00	
By amount paid W. W. Cochrane	5 00	
By amount paid W. Howe	2 00	
By amount paid for Transactions	110 00	
		143 40
Balance		$423 00

On motion, the reports were referred to the Auditing Committee, consisting of Drs. D. C. Jones, Mottram, and Goddard.

The charges and specifications against Dr. P. Dougherty, of Junction City, with his answer, were read, and referred to the Board of Censors.

The Society then adjourned, to meet at 8 P.M.

EVENING SESSION.

The Society met at 8 P.M., pursuant to adjournment; the President, Dr. Furley, in the chair.

On roll-call the following additional members were present: Drs. Brock, G. Boyd, Bussing, Clutter, Fisher, Gephart, Gish, Garvin, Green, Haldeman, S. W. Jones, Lanphear, J. Leigh, A. Leigh, Love, Mitchell, W. S. Mendenhall, Murphy, Shean, Stuart, Taylor, VanDuyn, Wever, Woodward, and Webb.

The Board of Censors made the following report:

Whereas, it appears to the Board of Censors, from the charges and evidence presented to them, that P. Dougherty, of Junction City, Kansas, made fraudulent representations to the Board of Censors, who recommended his admission to the Society in 1879, stating that he was a graduate of Rush Medical College, which statement was and is false, therefore we recommend that his name be dishonorably stricken from the roll of this Society.

H. O. HANNAWALT,
JOHN GRASS,
JAMES HALLEE,
A. S. FLOYD
Board of Censors.

On motion of Dr. Thomas, this report was adopted unanimously, and the Secretary directed to strike off the name of P. Dougherty from the roll.

The Auditing Committee reported that they found the report of the Treasurer correct, and the bill of the Secretary correct, and recommended that it be paid, which report was adopted.

The Secretary read a paper by Dr. Sieber on "The Treatment of Syphilis by Hyperdermic Sublimate Injections," which, after discussion, was referred to the Committee on Publication.

The Board of Censors reported in favor of admitting to membership the following: Drs. L. F. Taylor, Leavenworth; W. B. Scaman, Marysville; James Broderick, North Topeka; L. A. Davis, Ft. Hays; W. F. Oliver, Longton; E. D. Converse, Beloit; F. Studevant, Wamego; M. H. Haskins, Galva; W. R. Davis, Winfield; L. L. Terwilliger, Lansing. The report was adopted, and the Secretary directed to cast the ballot in their favor.

The report of the State Board of Examiners was made the special order of business for 2 P. M., to-morrow.

The Society then adjourned to Wednesday at 8 A. M.

MORNING SESSION.

LEAVENWORTH, KANSAS, May 11, 1880.

The Society met at 8 A. M., pursuant to adjournment; Vice-President Dr. Stuart in the chair. Roll-call was omitted.

The reports of the regular committees were called for, but none of the members of those committees had any report to make.

Special Committees: Dr. Stormont, Committee on Recent Advances in Hygiene, asked to be continued, and requested that the members report to him any cases that might occur in their practice during the year, having anything of interest in a hygienic point of view. Dr. Tenney, Committee on Nervous Diseases, asked further time.

Dr. J. M. Richmond, of St. Joseph, Mo., was elected honorary member.

Dr. Ross read a report on Diphtheria, which, after discussion, was referred to the Publishing Committee.

Dr. Shoyer then presented to the Society a case of psoriasis, which was examined by the members.

The Board of Censors reported in favor of admitting to membership the following: W. F. Hudson, George Emerson, Winfield; Theo. A. Felch, Atchison. The report was adopted, and the Secretary directed to cast the ballot in their favor.

Dr. Lyman then presented some instruments for performing tra-

cheotomy, and explained their use. On motion, he was requested to prepare a paper and cut of the instrument for publication.

On motion of Dr. Fryer, Dr. D. L. Magruder, of Fort Leavenworth, was elected honorary member of the Society.

Dr. Fryer then read a Report on Diseases of the Eye, which, after discussion, was referred to the Committee on Publication.

The President appointed the following Nominating Committee, viz.: Drs. D. C. Jones, J. H. Goddard, D. W. Thomas, W. R. Davis, F. M. Daily.

Dr. Brock presented a case of hip disease in both hips of a little boy, which was examined by the members, and read reports of two cases, which were referred to the Committee on Publication.

On motion of Dr. Sinks, Drs. M. A. Bogie, F. B. Tiffany, and A. Jamison, of Kansas City, were elected honorary members of the Society.

The Board of Censors reported in favor of admitting the following: Drs. R. H. Arrington, Wyandotte; W. V. Coffin, Fairmount; F. Thompson, Baldwin City; G. S. Sampson, Clinton; C. C. Goddan, Leavenworth. The report was adopted, and the Secretary directed to cast the ballot in their favor.

In the case of Dr. T. B. Lee, of Springdale, objection being made to his admission, the Board recommended that his application be continued to the next meeting of the Board. Adopted.

Dr. Sinks, in behalf of the Committee of Arrangements, extended an invitation to the Society to visit the State Penitentiary, at Lansing, and Fort Leavenworth. On motion, it was decided to accept the invitation to visit the fort.

The Society then adjourned, to meet at 1 P. M.

AFTERNOON SESSION.

The Society met pursuant to adjournment, at one o'clock, P. M., in the opera house; Dr. Furley in the chair.

The report of the State Board of Examiners was read by the Secretary of the Board, Dr. Neely. On motion, the report was received, and referred to the Committee on Publication, with directions to print 1,200 copies with the Transactions of the Society, and send a copy to each person holding certificates, and to members of the Society.

Dr. Grass offered the following resolution, which was adopted:

Resolved, That a committee of three be appointed by the chair to memorialize the Legislature and coöperate with the druggists of the State in procuring legislation regulating the sale of drugs.

The President appointed the following such committee: Drs. Grass, W. S. Mendenhall, and Lanphear.

Dr. McCully moved that every member of the Society who has paid

the Board of Examiners $5.00 for his certificate, be refunded that amount by the Treasurer of the Society. The ayes and noes being called for, it was lost by a vote of 14 to 40.

Dr. D. C. Jones moved that each member of the Board of Examiners be allowed a per diem of $10 per day for the time actually employed besides their expenses. Carried.

On motion, the rules were suspended to receive the report of the Nominating Committee, who then submitted the following report:

OFFICERS FOR THE ENSUING YEAR.

President — Dr. B. E. Fryer, U. S. Army, Fort Leavenworth.
First Vice-President — Dr. F. M. Daily, Scottsville.
Second Vice-President — Dr. John Grass, Independence.
Secretary — Dr. F. D. Morse, Lawrence.
Assistant Secretary — Dr. W. B. Gibson, Topeka.
Treasurer — Dr. W. W. Cochrane, Atchison.
Board of Censors — Drs. C. C. Furley, A. H. Lanphear, W. L. Schenck, L. J. Lyman, C. C. Shoyer.

BOARD OF EXAMINERS.

Drs. S. F. Neely, Leavenworth; D. W. Thomas, alternate.
C. C. Furley, Wichita; W. S. Mendenhall, alternate.
D. W. Stormont, Topeka; D. C. Jones, alternate.
W. W. Cochrane, Atchison; J. M. Linley, alternate.
G. W. Haldeman, Paola; J. M. Carpenter, alternate.
R. Morris, Lawrence; C. V. Mottram, alternate.
C. H. Guibor, Beloit; H. P. Woodward, alternate.

REGULAR COMMITTEES.

Practice of Medicine — Drs. G. W. Baldwin, E. R. Switzer, T. S. Floyd, M. R. Mitchell.
Surgery — Drs. D. W. Thomas, J. B. Gish, J. F. B. Gephart.
Obstetrics — Drs. C. V. Montram, J. H. Goddard, J. A. Maggard.
Materia Medica — Drs. W. M. Shean, C. H. Guibor, W. B. Gibson.
Physiology — Drs. J. H. Stuart, M. R. Mitchell, S. F. Taylor.

SPECIAL COMMITTEES.

Recent Advances in Chemistry — Dr. G. Boyd.
Sanitation — Dr. D. W. Stormont.
Infantile Diseases — Dr. J. Haller.
Nervous Diseases — Dr. S. F. Neely.
Medical Electricity — Dr. H. P. Woodward.
Gynecology — Dr. D. C. Jones.
Scarlatina — Dr. D. J. Ross.
Diphtheria — Dr. J. Bell.
Anesthetics — Dr. W. W. Cochrane.

Diseases of the Eye and Ear—Dr. B. E. Fryer.
Orthopædic Surgery—Dr. L. A. Buck.
Surgical Appliances—Dr. W. A. McCully.
Medical Ethics—Dr. T. Sinks.
Puerperal Convulsions—Dr. W. R. Davis.
Hernia—Dr. G. H. Picard.
Diseases of the Bones—Dr. F. Sieber.
Antiseptic Surgery—Dr. E. D. Converse.
Therapeutic Effect of Chloral Hydrate—Dr. W. S. Mendenhall.
Public Address—Dr. J. H. Stuart.

Delegates to the American Medical Association—Drs. C. V. Mottram, W. L. Schenck, C. C. Furley, B. E. Fryer, D. W. Thomas, D. C. Jones, J. H. Goddard, T. Sinks, C. H. Guibor, J. Grass, D. W. Stormont, W. R. Davis, W. W. Cochrane, G. Boyd, J. H. Stuart, F. Speck.

Delegates to the Missouri Medical Society—Drs. J. B. Gish, W. J. Van Eman, S. E. Sheldon, F. Speck, J. A. Maggard.

Delegates to the Colorado Medical Society—Drs. M. S. Thomas, T. S. Floyd, S. F. Neely, Geo. Emerson, S. E. Sheldon.

Place of next meeting—Topeka. Time—Second Tuesday in May, at 7:30 P.M.

The committee also recommended that the Board of Examiners be appointed a committee to report any desirable alterations in the act under which they are appointed, and to report to the Society at the next meeting.

On motion, the report was adopted.

The Society then adjourned, to meet at 8 P.M., to allow members to visit the fort or penitentiary.

EVENING SESSION.

The Society was called to order at 8 P.M. by the President, Dr. Furley.

Dr. Ross proposed the following amendment to the by-laws, art. III, sec. 2: To strike out the words to and including the word "meeting," and insert in place of them the following: "The Committee on Nominations shall consist of one member from each county represented in the meeting of the Society."

The amendment was adopted.

A resolution to make the Board of Examiners complainants against violation of the law, was laid on the table.

The Board of Censors reported in favor of admitting the following to membership: Drs. B. D. Eastman, Topeka; W. S. Lindsay, Topeka; Samuel Phillips, Leavenworth.

The report was adopted, and the Secretary directed to cast the ballot of the Society in their favor.

Dr. A. Leigh offered the following resolution:

Resolved, That the Kansas Medical Society does not, and will not hereafter, recognize the St Joseph College of Physicians and Surgeons, of St. Joseph, Mo., as a regular institution for medical education.

The resolution was on motion referred to the Board of Censors, who reported in favor of it, and it was unanimously adopted by the Society.

On motion of Dr. Woodward, the Board of Examiners were instructed to look after the interests of the law, at the next session of the Legislature.

The Secretary then read a report of a case of Eclampsia Purpuralis Hysterica, by Dr. C. C. Shoyer, which was referred to the Publishing Committee.

Dr. J. A. Coons read a report of a case of Neuromatus Tumor, and exhibited a pathological specimen, which report was referred to the Committee on Publication.

Dr. T. S. Floyd read a report on Antiseptic Surgery, which was referred to the Committee on Publication.

Dr. J. M. Richmond, of St. Joseph, Mo., read a paper on Strictures of the Urethra of Large Caliber. A vote of thanks was extended to the Doctor for his paper, and a copy requested for publication.

The Secretary read a paper on Encephalocele, by Wm. Naim, Fort Hays, which was referred to the Committee on Publication.

Dr. Guibor exhibited a bandage for the inguinal region.

Dr. B. D. Eastman was made a special committee on insanity, to report at the next meeting.

The Society then adjourned, to meet at 8 A. M. Thursday.

MORNING SESSION.

LEAVENWORTH, KANSAS, May 13, 1880.

The Society was called to order by the President, Dr. Furley. Dr. R. Morris was appointed Treasurer *pro tem.*

The following were appointed Committee of Arrangements for the next meeting: Dr. Stormont, chairman, Drs. Hogeboom, D. C. Jones, Sheldon, Gibson, J. B. Hibben, Eastman, and Mitchell.

The following Committee on Publication: Drs. Morse, Stuart, and Stormont.

The following Committee on Necrology: Drs. Baldwin, D. C. Jones, W. S. Mendenhall, Jacobs, and Sinks.

Dr. Randell presented a report on an Anomalous Bigeminal Pregnancy, which was referred to the Committee on Publication.

The Auditing Committee reported favorably on the bill of Mr. Hollister, stenographer, which was allowed, and ordered paid.

The following resolution was adopted:

Resolved, That the thanks of this Society are tendered to the different railroads who have kindly reduced the rates to members attending this meeting; to the Academy of Science, of Leavenworth, for the use of their rooms, and to Dr. Sinks for the use of the Opera House; to Dr. D. L. Magruder, of Fort Leavenworth, for his courtesy, and to the physicians of Leavenworth for their hospitality.

The Board of Censors reported favorably on the petition for membership of S. B. Chilcote and J. W. Balsley, but, there being objections, the names were referred back to the Censors, to report at the next meeting.

The Society then adjourned, to meet in Topeka on the second Tuesday of May, 1881, at 7:30 P. M. F. D. MORSE, *Secretary*.

ADDRESS OF THE PRESIDENT.

C. C. FURLEY, M. D., WICHITA, KANSAS.

Coming together at this twenty-first annual convocation of the Kansas Medical Society, I wish to heartily congratulate you upon the long and continued success of our association. We come again to compare notes, with scientific discussion, and to enjoy the friendships and renew the profitable and pleasant acquaintances which probably would not have arisen but for these annual meetings. Our Society, composed as it is entirely of active practitioners of our art, must, by our interchange of views, alike benefit the people and the profession, and at the same time renew the fraternal feeling and cohesion of purpose that must be of service in giving us moral force and influence in all the departments of science and usefulness that properly belong to our profession. I trust that all our deliberations may be conducted in such a way as will conduce to these results.

The advancement of the science of medicine and surgery, to the end that the profession may maintain its prestige of standing in the front rank as the promoters of useful progress, and that the greatest good may be attained for the people of all the earth, is one of the most important objects of this and all kindred associations. Intimately and inseparably connected with it is the duty of throwing around the profession of medicine such safeguards as will protect the people from the evils of quackery, and leave the legitimate field of practice to those who possess the proper professional and moral qualifications. To the latter, the attention of the public, legislatures and courts has of late years been called, and legislation has been had in this State. A short

time before our last meeting, a law was passed by the Legislature of this State, governing the practice of medicine, which met with strong opposition, coming chiefly from influences brought to bear by irregular practitioners of medicine, resulting in forcing into the law some matters that could be improved, and of cutting out some that it would have served a better purpose to have kept in.

We have been operating under this law for nearly one year, and while we find in the main it serves the purpose, as a member of this Society I desire to enter my protest against any law creating more than one Board, and which in this State has well-nigh had its object defeated by the cupidity and vileness of one of the Boards created by the law. If this law were properly enforced there ought not, prior to the first of April last, to be found any person in the State practicing medicine, unless duly licensed by one of these Boards, as subsequent to that date the law only recognizes as proper to receive such license, those who have by proper means become possessed of a diploma from a recognized medical college, which is the presumable evidence of the education and scientific training of the holder. The law of the land so protects the financial and property interest of the people, that it will not permit persons to engage in the practice of the law until they shall have passed a competent examination and shown themselves to be of good moral character. It seems more important that the people should be protected from charlatanism in medicine than in law. Let us see that the law we have is properly enforced, and our standing will be advanced.

In the last few weeks an effort has been made to cast a doubt upon the legal existence of the corporate powers of this Society, and an opinion has been procured from a law firm to the effect that the Kansas Medical Society has no legal corporate existence, and had no authority to appoint a Board of Examiners under the law of 1879, and that certificates issued by such Board will not protect the holders of the same from the penalties of the act. This opinion was procured at the instance of the Board, previously mentioned as mercenary, and published at advertisement rates in different papers of the State, as well as in circular form, attached to an advertisement of the "Eclectic Board," calling the attention of the profession in the State to the fact that they, the "Eclectic Board," considered the certificates issued by the Board of Examiners of this Society "invalid in law," and that its Board of Examiners would issue certificates to all who hold certificates from the Board appointed by the Kansas Medical Society, on the payment of five dollars, and, as I understand, in direct violation of the express limitations of the law, which provides that no examination shall be held after the first day of April, 1880.

The written opinion of eminent lawyers has been obtained by the President of the Board of Examiners of the Kansas Medical Society,

in which it is unqualifiedly held, that it has a legal corporate existence, and that the certificates issued by its Board of Examiners are legal, and will fully protect the holder.

The whole matter has the look of an unprofessional and unwarrantable attempt to levy blackmail against the members of the regular profession. It is sincerely to be hoped that none will be, and I believe none of the profession have been, gulled by the trick, and my advice is, that no further notice be taken of the matter.

The sanitary condition of the State is of the greatest importance, and in my judgment this meeting might, with great propriety, take some steps looking to the promotion of this object. A law should be passed by the Legislature of the State, creating a Board of Health for the State, composed of members of the medical profession, chosen with a view to their learning and fitness for the duties to be performed, with one or more lawyers of acknowledged ability, to advise the Board as to all strictly legal questions that may arise in the discharge of their duties. The Board should have power to investigate as to the prevalent general and local causes of disease, as well as those of epidemic and contagious character, and have power to use such means as may be found necessary to prevent the same.

They should especially be required to record correct information of births and deaths, with the causes of the same, which in future years could be referred to as reliable statistical information. They should have authority to take the proper steps to eradicate, as far as possible, the causes of disease, wherever found and of whatever character, and to see that cities and towns, through their local authorities, are kept in proper sanitary condition, making annual reports to the Governor, with such recommendations as they might deem proper. The death-rate of the State, moderate as it is, might thus be materially diminished. I would suggest the propriety of having a committee appointed to take such steps in the matter as may be deemed advisable.

It is important to the profession that it be protected from the blunders of incompetent druggists. At this time an important question is pending before the people of the State, upon the question of temperance reform, which will be voted upon at the November election, and in the event that the proposed constitutional amendment prohibiting the manufacture and sale of intoxicating liquors is adopted, it will in all probability call into existence a large class of druggists whose chief aim will be to evade the letter and spirit of the amendment and all laws passed to carry it into effect, and in whose hands professional prescriptions might be dangerous to the profession and the people. In New York, Illinois and other States, laws have been passed to regulate the sale of drugs and put the business in competent hands, and have been found to serve an excellent purpose.

I therefore recommend that the Society appoint a committee to take

into consideration the propriety of presenting to our next Legislature a memorial asking for the enactment of a law regulating the sale of drugs in this State, similar to that of the New York law on the same subject, and also the committee be authorized to take such steps in the matter as may be deemed prudent.

NEUROMATOUS TUMOR, WITH EXCISION OF A SECTION OF THE GREAT SCIATIC NERVE.

BY J. A. COONS, M.D., SPRING HILL, KANSAS.

J. McGuffin, aged 25 years, farmer, in good health, with the exception of occasional glandular enlargement of the neck and groin, was slightly kicked by a horse on the posterior middle of the right femur, about October 1, 1877. The skin was not broken, and the effects of the contusion passed off in a few days. Three months after the injury, a small tumor commenced forming in the locality of the contusion, producing severe pain in the outside of the right foot and lower third of the leg. He was treated for six months mainly with local applications of iodine, and the internal use of iodide potassa. The pain increased as the tumor enlarged, until sleep or rest was impossible without the almost constant use of morphine or chloroform. He finally gave his consent to the removal of the enlargement, which had been advised months before. On the 20th of May, 1878, assisted by Dr. W. M. Shean, of Gardner, I performed the operation. Making an incision ten inches in length through the skin and cellular tissue, and pulling the biceps muscle to one side, the tumor was fully exposed, lying midway between the trocanter major and the condyles, intimately connected with the great sciatic nerve. It could be separated from its attachments without much difficulty, except at its upper and lower extremities. It seemed to be so intimately included in the nerve substance, and so adherent to it, that it was impossible to remove it without dividing the nerve, both above and below the tumor. The lower division was below the bifurcation, and the section of the great sciatic removed, measured 8½ inches in length. The tumor was neuromatous in character, weighed one pound, slightly oblong, of a hard, fibrinous consistence. Several small arteries were secured by ligature. The wound closed in the usual way and mostly healed by the first intention, not discharging more than one drachm of pus. The pain in the leg and foot ceased at once, and in three weeks he had regained his usual health and condition, with the exception of the loss of sensation and motion in the parts affected by the pain. He continued in good health, and was not only able to walk, but

performed considerable labor upon the farm. About six months after the operation, he commenced complaining of pain in the lumbar region, which in the course of a few weeks extended down both legs, but was more severe in the *left*. There seemed to be a diseased condition of the nerves supplying the lower part of the body and lower extremities. The pain was so severe in a few weeks after its commencement as to require very frequent use of morphine by the syringe. Three months after the beginning of pain in the lumbar region a small tumor commenced forming near the locality of the first, but more superficially located. In four months it had attained the size of an egg, and was removed by Dr. Haldeman, of Paola. The pain was greatly relieved for about three or four days, after which it returned as severely as before. The wound continued to discharge up to the time of his death, which took place from exhaustion three months after the last operation.

I wish to call attention to the large section of nerve removed, to the immediate relief of pain, and *especially* to the *ability* to use the foot and leg to the extent referred to above.

AN ANOMALOUS BIGEMINAL PREGNANCY.

GEO. H. BANDELL, M. D., EASTON, KAS.

On January 25th, I was called to attend in labor, Mrs. C. E., colored. Had not seen patient previously. Found a strong, well-built woman, aged about twenty-six years; healthy, and spirits good. Patient gives the following history: Has one child, born two years ago; health has been good during the whole time of gestation; has had no fall or injury of any kind; has been accustomed to ride much in an ordinary farm wagon. Is not and has not been conscious of anything abnormal, except that she thinks she has overrun her time about one month, but of this I can find no evidence, and therefore presume she is mistaken; and that one month ago she experienced what she termed her "turns." This seemed to have been a hemorrhage, small in amount, accompanied with pain, and ceasing spontaneously in two or three days. When I arrived labor-pains had been present twelve or fourteen hours. By digital examination, the os was found well dilated, and the head presenting in the first position. For the next hour pains were regular and strong, but from some cause I could not discover. they were unavailing. After satisfying myself that there was no impediment to the passage of the child, in the way of a deformed pelvis, tumors, etc., and the parts being already well dilated and readily dilatable, I ruptured the membranes and administered a dose of extract ergot, and in thirty minutes another

dose. In four hours from my arrival, a well-formed and vigorous female child, weighing about nine pounds, was born. After giving the child the usual care, I made a digital examination with the view to taking care of the placenta. Following up the cord, my fingers came in contact with a hard substance, which proved to be a dead fœtus with the hand presenting. I readily passed my first and second fingers up and around its neck and delivered. This second child was about seven months old, certainly not more than eight; weighed about one-and-a half pounds; bones of cranium collapsed; body and extremities flabby, and extremities œdematous; decomposing, especially about mouth and nostrils; smell offensive; cord small and flaccid. Each child had a cord eighteen or twenty inches in length. The two cords were attached to a single placenta, four inches apart. Unfortunately the placenta was not subjected to a careful microscopical examination; to the unaided eye it presented little or no variation from the normal. The mother and living child did well, and are at the present time enjoying perfect health.

Concerning the labor, I conclude the dead fœtus, although not accessible to the examining finger, was, nevertheless, so wedged against the presenting child as to be responsible for the unavailing effect of good pains, as noted above. Of course the chief interest in this case centers about the uncommon association of a live and long-dead child, in the same uterus, and attached to the same placenta. From the appearance of the dead child, I should be inclined to think it was not more than seven months old; but knowing the difficulty of forming an exact opinion on this head, in the case of a putrefying child, and taking this uncertainty in connection with the hemorrhage one month before labor, I conclude that probably the hemorrhage marked the time of the fœtal death, or a short time subsequent to it. From this it appears that *a dead child may be carried in utero in company with a living child, without detriment to the latter, for a period of at least one month.* I account for the hemorrhage by regarding it as an abortive attempt of the uterus to empty itself of an offending body, viz., the dead fœtus.

ANTISEPTIC SURGERY.

BY T. S. FLOYD, SEDGWICK, KANSAS.

In the domain of antiseptic surgery there have been no special discoveries, either in the agents to be used or their mode of application, though some modifications of previous methods have been recommended by high authorities. In England and Scotland especially, the method of Lister has had its advocates and its opponents, and the

controversy between them has in some instances been quite bitter, but as yet without decisive results; one class claiming that equally good results were obtained under the old method, where sufficient care and cleanliness were observed, as under the new; the former of which Mr. James Spence, of Edinburgh, has sought to demonstrate from a series of cases drawn from the records of the Edinburgh Infirmary.

It seems to me that our practice must be largely influenced by the views we take as to whether the septic and deleterious influences and agents we have to combat, as surgeons, come from within or are received from without, or from both sources. No one doubts, who is familiar with the experiments and researches of Pasteur, and embodied in his work on the "Organized Corpuscles Existing in the Atmosphere;" or with the experiments of Prof. Tyndall, and his replies to Dr. Bastian, on the question of Spontaneous Generation; or with the labors of Prof. Cohn, of Breslau, who say, "no putrefaction can occur in a nitrogeneous substance, if its bacteria be destroyed and new ones prevented from entering it. Putrefaction begins as soon as bacteria, even in the smallest numbers, are admitted, either purposely or accidentally. It progresses in direct proportion to the multiplication of the bacteria, it is retarded when they exhibit a low vitality, and is stopped by all influences which either hinder their development or kill them. All bactricidal media are, therefore, antiseptic and disinfecting." But that many septic agents may be received upon open wounds or abraded surfaces from the atmosphere itself, as well as from contaminated dressing or instruments, and that therefore all or any agent which has power to destroy or prevent the access of these germs, must be more or less useful, if not altogether indispensable, in surgical practice.

But I am not of those who look for no other source of poisoning than bacteria, and no other medium of contamination than the atmosphere.

While an almost unanimous verdict has been accorded the antiseptic methods of treatment, it by no means follows that all the details of Mr. Lister's plan must be followed to obtain any useful results.

Some good has already resulted from the criticisms upon his method, and his theory therefor, as it has prompted a closer inquiry into the therapeutic action of the agents heretofore in use, and a search for new, and in some cases perhaps more useful and expedient ones; and also if other and less troublesome, cumbrous, and expensive dressings than Lister's would not be equally serviceable.

The carefully devised experiments of Professor Lewis A. Stimson, of New York, seem to demonstrate that carbolic-acid spray, as usually used, is not effective to purify, and does not destroy the putrefactive germs floating in the air; and that all the benefits of the acid can as well be obtained by the solution or localized spray directly applied to the wound.

The beneficial effects of carbolic-acid dressings have been too well demonstrated to require further proof; but whether these are to be more directly imputed to its powerful sedative action, may still be an open question.

Permit me now to invite your special attention to an article which, though it has received high commendations from distinguished sources, is not in as common use as its merits would seem to entitle it. I refer to the Eucalyptus Globulus. I will not weary you with its botanical history, as that can be found in most of the recent works on materia medica. Something over two years ago my attention was drawn to the probable value of this agent as a surgical dressing, and my first application was of the fluid extract, made by Parke, Davis & Co., in the following case: A boy about 12 years old came into my office, whose fingers had been caught between a rope carrying a heavy weight and the edge of an iron pulley, over which it ran. An examination showed the terminal phalanges of the first and second fingers to be severely crushed, and the joint of the second finger laid open. Believing that amputation would be necessary, and as his parents were not present, I straightened the crushed fingers on slips of pasteboard, confined them with a few turns of a roller, open at the ends, then saturated the bandages with the fluid extract of eucalyptus, and sent the boy home, saying I would come and see him after awhile. On my visit I found the saturated bandage almost as hard as a plaster splint, and the fingers giving no pain. As the bandage was open at the ends, so that I could easily watch for any changes that might demand interference, I resolved to allow the dressing to remain, and to be kept saturated with a mixture of the fluid extract eucalyptus, one part to seven of water. As neither pain nor suppuration supervened, this dressing was allowed to remain for ten days, when I removed it, and found the fingers had nicely healed; the opened joint was stiff, but under passive motion it gradually recovered until, before the boy left the town, it had nearly regained its natural mobility, much to my satisfaction as well as the lad's.

The description of the foregoing case illustrates the method I have employed in quite a number of cases of injuries to fingers and hands, always allowing the first dressing, when it could be neatly and closely applied, to remain until the wounds were healed, and in each case has the result been entirely satisfactory. In cases similar to the one described it is especially applicable, as the saturated dressing hardens and forms a sufficient support.

So satisfactory thus far had been my experience with this agent in minor surgery, that I resolved to extend its application to more serious cases, and did not wait long for an opportunity. A case presented of a middle-aged German who had received a compound comminuted fracture of the left fore-arm, by its being crushed and torn in the gearing

of a wind-mill, of so serious a nature as to demand amputation at about the junction of the upper and middle thirds. This was done on the 9th day of April, 1879. Sponges and instruments were prepared in a 20-per-cent. solution of carbolic acid in water, sutures and adhesive straps applied in the usual manner, and the stump enveloped in several folds of the thin muslin commonly called cheese cloth, and kept saturated with fluid extract eucalyptus, one part to seven of water. Very little pain or suppuration occurred, and on the 28th of the same month, nineteen days after the operation, he was discharged, the stump nicely healed, and needing no further surgical attention.

Since that time I have used eucalyptus in some form in nearly all my surgical cases, with equally good results as in the foregoing.

Desiring an active preparation of eucalyptus that could be readily atomized, I requested Parke, Davis & Co. to furnish me, if they could, one devoid of the resinous principles only, to which request they kindly complied by sending me four preparations, samples of which I have brought for your inspection.

Numbers one and two contain all the basic, neutral and acid principles, in various proportions; number three contains all the ingredients of the leaves in the same proportion as in the fluid extract, except the resin; and number four is the oil. Numbers one to three are readily miscible in water, and can be used as a spray or as a simple dressing. The oil is readily soluble in an equal part of strong alcohol, and will mix with oil or paraffine. It is devoid of toxic action, and is powerfully anti-septic. Lint, gauze, or muslin, saturated with the prepared oil, makes a convenient and elegant dressing; it is agreeable in smell, and destroys all fetid odors without substituting another offensive one. It evaporates very slowly, and its vapor displaces for a considerable time the atmospheric air about the wound. According to Clocq, the oil is composed of various carbo-hydrates, one of which, eucalyptol, can be further separated into two other oils, eucalyptene and eucalyptolene. Both these bodies display great affinity for oxygen, and are said to have greater deoxydizing power than sulphurous acid.

In October last, having the various preparations to use that I present you to-day, I instituted the following experiments to test the power of each of them to prevent putrefaction:

I prepared a strong infusion from a parcel of very musty hay, and selecting five clean bottles, I put in each of them three ounces of the infusion, and added one drachm respectively of numbers one, two, and three, and to the fourth, one drachm of the fluid extract, and to the fifth, twenty minims of the oil of eucalyptus dissolved in forty minims of alcohol, so as to make a drachm.

These were all left open in a warm place in my office. In ten days, the bottles containing numbers one, two and three showed signs of decay, but there was no change to be observed in those containing the

fluid extract or the oil. All the bottles remained open until the weather became so cold, that to preserve them from freezing I corked them and placed them in a box of sawdust for the winter. A month ago I removed them, and again exposed them to the atmosphere, but up to this time there has been no putrefactive change observed in the bottles containing the fluid extract, or the oil, while the others are quite offensive.

ON THE RECENT ADVANCES IN THE MEDICINE AND SURGERY OF THE EYE.

BY DR. B. E. FRYER, U.S.A., FORT LEAVENWORTH, KANSAS.

The numerous workers in the special branch which I represent here have been active during the interval since my last report on the advance in ophthalmology, made to the meeting at Atchison, in 1879, and their writings voluminous; and though I cannot say that the past year has shown many new discoveries, satisfactory work has been done in the way of testing advances, previously reported, of a comparatively recent date. The year may therefore be said to have been in the ophthalmological world more ample in modification than in discovery.

I will, in the following report, present to your consideration such of the advances in ophthalmology as would be of more practical interest to you as general practitioners.

In the way of operative procedures I may mention first, that of optico-ciliary neurotomy, of a substitute for ablatio bulbi, for the prevention of sympathetic ophthalmia.

This operation, though not very new, is one many ophthalmologists have hesitated to adopt, fearing it might not be efficacious as a preventive of the sympathetic disease I have mentioned. During the last four years, however, it has been done frequently in France and Germany, and more recently on this continent.

The theory as to the transmitting channel, through which the sympathizing inflammation is produced in the sympathizing eye, is, as you are probably aware, most generally believed to be the ciliary nerves. These nerves, from ten to fifteen in number, enter the eye near the optic nerve entrance, and one of the advantages of enucleation is that there is no chance for restoration of function being brought about in these nerves; such as possibly might occur after optico-ciliary neurotomy simply, if any of the divided nerves should become reunited, as has occurred in general surgery after section of larger nerves. But the reports in favor of the operation I am speaking of are increasing, and the fear of the risk I have mentioned would seem to be groundless.

Hirschberg, in the *Central Blatt Augen Heilkunde*, 11th vol., page 129, June, 1879, gives a history of the operation. Scholer has written most interestingly on this subject: Jahresschrift, seiner Klinik, 1877–78, and Warlomont also in the *Annale d' Oculist*, volume 82. page 223, December, 1879.

My friend Dr. Knapp, of New York, in his Archives of Ophthalmology, vol. 9, No. 1, gives an interesting paper upon the subject. He says: "Induced by the general favor into which optico-ciliary neurotomy seems to have grown lately, I have performed in the last six weeks this operation in three cases." In the first two cases, Knapp operated as follows: He incised the conjunctiva as in the operation for advancement of the internal rectus tendon, divided this tendon, and passing sutures through it and the conjunctiva above it, freed the conjunctiva from the sclera towards the cornea, and then with a flat, curved pair of scissors, divided the optic nerve. Then turning or rotating the eyeball, so as to bring the posterior portion forward, divided all the tissues on the posterior part of the globe, except the oblique tendons. The eyeball was then rotated in its proper position; the divided internal rectus tendon replaced and united by sutures and a dressing of charpie and bandage applied. The recovery was good in each case.

In the third case Knapp operated differently; the main difference being that the operation was done without myotomy, and in a very similar manner to that by which he has removed tumors of the optic nerve, and which I have had the good fortune to witness and assist in. This operation for the third case of optico-ciliary neurotomy, reported by Knapp in the paper I have referred to, was as follows: An incision with squint scissors was made between the internal and superior recti muscles, and the tissue between these muscles upon the sclera, as far back as the optic nerve, being severed; the optic nerve was then divided, still using the scissors. The lips of the incision were held apart with squint hooks, and a small, double, sharp-pointed hook fastened into the sclerotic posteriorly, and the eye turned so as to bring its posterior portion forward. Now all the tissues connecting this portion of the orbital tissue with the sclera were divided, and after waiting a few moments, to watch for and arrest any hemorrhage, the eye was rotated into its natural position and the usual dressing applied.

This eye, which had been destroyed by ophthalmia neonati, had a slight conical staphyloma, "a strip of vascular tissue extended from the upper part of the limbus in a curved line over the cornea down to the lower part of the limbus." This strip of vascular tissue appeared after the operation to be sensitive, while all the remainder of the cornea was non-sensitive. And as there was no doubt in regard to the complete division of the ciliary nerves, this vascular strip of tissue must have derived its sensitive innervation from a growth of new nerves

which had become developed with the growth of the new vascular tissue. This is quite an interesting point.

In reference to the operation I have just described as done in the third case of Knapp, Knapp says: "I think this plan is the simplest, the least dangerous, and yet as efficient as any that have come to my notice. I return in this way to the first method of performing this operation according to which the nerves were divided without cutting any muscles." (Roudan, Boucheron, Dianoux.)

Scholer and Meyer, and most operators, prefer operating from the external (temporal) side of the eye and divide the external rectus. The only point in favor of this is, that the division of a muscle being deemed necessary the external rectus if it remains weakened after the operation, or does not unite, there would be less deviation of the eye than with a weakened or ununited internal rectus. No myotomy being essential, and the optic nerve being more readily reached through an incision at the nasal side of the conjunctiva, it is strongly urged that the latter point for operating be chosen.

The space I have given to this operation of optico-ciliary neurotomy is warranted by the importance of the subject. For the general lay prejudice against the loss of an eye, even when totally visionless, is so great that but few patients comparatively can be brought to assent to it, notwithstanding the threatening loss of vision may be plainly set before them. But with the division of the nerves as I have described, it will but rarely be objected to, and fewer cases of blindness from that destructive process, sympathetic ophthalmia, will occur.

One authority worth mentioning as against the operation of optico-ciliary neurotomy is Mauthmar, who does not favor it as a substitute for enucleation.

Several operators have reported cases, and so far as observed the object of the operation has been accomplished.

But in regard to an exact decision as to the certainty of immunity the operation will give from sympathizing destruction, I believe as yet it is impossible to give one. The chances are that if the operation is carefully done it will be found to give perfect freedom from the risk of sympathetic ophthalmia. But from the fact that until comparatively quite recently the operation has not been numerously performed, and as we know that sympathetic ophthalmia has occurred as long as twenty-six years after an injury, we think it yet too soon to positively and unqualifiedly adopt this operation. Enucleation is known as an absolute preventive of sympathetic ophthalmia when done in time; and where that is not permitted, optico-ciliary neurotomy may be done as a substitute, and the patient kept under supervision.

While on this point, it would be well to mention that Chisolm, of Baltimore, reports in Knapp's Archives, vol. 9, No. 1, a fatal case of te-

tanus following the enucleation of an eye. The case was in a female aged 71, who had suffered from a cancerous growth of the left eye-ball, and enucleation being performed it was followed by free hemorrhage from the orbit, which was controlled, however, by plugging. The hemorrhage recurring, a compress, saturated with a solution of persulph. of iron, was applied to the socket. No further bleeding occurred. On the fifteenth day after the operation the tetanic symptoms appeared, and opisthotonos was marked on the seventh day of the disease, and death followed on the eighth, the twenty-third day after the operation.

In the remarks on the case, Chisolm says that "it must ever be an open question what role the iron styptics played in the development of the tragedy."

In regard to the operation for extraction of cataract, the Graefe's modified linear incision is still the favorite with many operators. Some few, among the number DeWecker, of Paris, change the operations of Graefe in two respects: "First, by making the flap of 2 mm. in depth; and secondly, by making this flap fall exactly in the corneal border." This incision permits the more ready escape of the lens, and a complete absence of any risks of interference with the ciliary body. These modifications will probably grow in favor. One other improvement that is important in the iridectomy—one of the steps of the operation: As small a portion of iris as possible only, is now excised, making with the pupilary opening, according to DeWecker's wording, "a keyhole-shaped pupil."

As a therapeutic addition to the operation, DeWecker strongly urges instillation of eserine for the purpose of disengaging any small portion of incarcerated iris. He urges, too, the use of a small, soft spatula to smooth out the cut extremities of the sphincter pupila, and "also to guard against any adhesion between a fold of iris and the angles, or any intermediate portion of the wound."

The peripheral laceration of the capsule, as first done by Knapp, seems to be growing in favor. C. R. Agnew, of New York, in the New York *Medical Record*, in May, 1879, says he considers it "a valuable addition to our operative procedure."

The antiseptic method in ophthalmic surgery has gained followers among whom are Alfred Graefe, of Halle, and Hirschberg, of Berlin. In my own operations upon the eye I have for some time past very generally adopted the antiseptic method; not strictly according to Listerism, but adhering as nearly as possible to it. The spray is impracticable, in many operations in ophthalmic surgery.

More boldness seems to be the rule in regard to attempts at removing foreign bodies from the vitreous. Of course where this is attempted, the exact location should be made out, and the greatest care and delicacy had in the manipulation. In deciding as to whether an

attempt should be made or not, the whole ground should be thought over.

Whether, first, the foreign body can probably be removed; second, whether the removal will not produce even more trouble than the foreign body; third, as to the chances of the substance becoming innocuous. In the event of the ciliary body being the site of the foreign substance, no hesitation should be had; the removal will be the safer plan there unquestionably.

Dr. Hardy, of London, in the *Lancet* gives a case in which a magnet was brought into use in the extraction of a piece of iron, which lay upon the anterior surface of the lens. The approach of the magnet too near the eye had the effect to make it start from its position and strike the posterior surface of the cornea, from where it was removed with a piece of the iris.

McKeown, of Ulster, who was the first to use the magnet for the extraction of iron from the eye, reports two cases in the British *Medical Journal* for May 4, 1878, in which, by the aid of the magnet, a piece of iron, in each case, was removed from the anterior chamber of the eye.

My friend Dr. Gruenig, of New York, has published in the *Medical Record*, of New York, for May 1, 1880, a description of a magnetic instrument, devised by him, for the removal of fragments of iron or steel from the eye. Gruenig has tested this instrument experimentally in the eyes of animals, and finds that pieces of steel, weighing from one to fifty c. grams, placed in the vitreous, were attracted towards the point of the instrument (which is of malleable iron), at a distance of from one to five millimeters with the greatest facility.

The operative treatment of detachment of the retina has lately been done with more success than formerly; the later operators making an incision into and through the sclera, not incising the detached retina as was formerly recommended. My friend Dr. Gebser, of St. Louis, writes me of two cases so operated on lately by him with complete success. The visual field was restored, and vision also. Several cases are also reported in the different eye journals. The improvement consists in simply making an incision into and through the sclera only. This is done by a small knife—the Graefe's cataract knife does very well—and the sclera should be incised two or three millimeters in extent over the position of the detachment, the location of which, of course, must be made by the aid of the ophthalmoscope.

As to advances in ophthalmic therapeutics, we have only to report further experience in the use of duboisia, eserine, jaborandi, and pilocarpine.

And, first, as to duboisia. The use of this alkaloid as a midriatic is becoming very general among ophthalmologists. There are in the journals numbers of reports as to its efficacy, to its more prompt action, to the fact that frequently where atropia produces irritation duboisia

may be safely substituted. It is, too, more transient in effect than atropia, a matter of some importance when we wish it to produce paralysis of accommodation in testing the form and degree of ametropia. My own experience confirms that of other oculists. I have frequently used it with advantage, in cases where atropia could not be applied without severe irritation. The solution I use ordinarily is two grains of the duboisia sulphate to the ounce of distilled water, though a four-grain solution is sometimes applied.

A case of marked susceptibility to duboisia is reported by Seely, of Cincinnati, in the Cincinnati *Lancet* for February, 1879, in which, after the instillation of four drops of a four-grain solution, "strange feelings of vertigo, sleepiness, and a dryness of throat came on."

Duboisia is becoming more reasonable in price, but must still be cheaper before it can be much used in general practice.

Eserine, which received for a time some favor in the treatment of certain forms of glaucoma, has had a further and somewhat extensive trial since my last report; and the very general verdict is that it will occasionally, but only for a time, arrest the glaucomatous process, but that it will not be safe to hope for a cure from it—the disease recurring very generally, and operative interference becoming the necessary sequence.

One advantage, however, for its use in glaucoma will remain, and that is where an oculist is not at hand, and the patient is unwilling for the general surgeon to do the required iridectomy, the application of the eserine may give time for the patient to reach special assistance with less risk than he would otherwise have. I have lately had a case of acute glaucoma in the wife of a physician, in which vision, before the eserine treatment, had run down 10–20. I ordered a drop of a half-per-cent. solution to be applied twice daily, and in a few days the vision markedly improved and the intra-ocular tension became normal. But the husband of the patient was advised to be on the alert for a second attack, and informed of the probable necessity of an iridectomy before a permanent cure could be expected.

Eserine would seem to give benefit after iridectomy, in preventing consecutive glaucoma.

But it is in diseases and injuries of the cornea, and before and after operations, that eserine has come to take so important a place. De-Wecker, in his Ocular Therapeutics, says of it in abscess of the cornea: "This agent not only checks diapedesis by stimulating the non-striated, the muscular fibers, and thereby causing contraction of the vessels, and thus stopping the migration of cells into the tissue of the cornea; but also by reducing the purulent discharge from the conjunctiva with the same result when loss of epithelium or ulceration has actually taken place. . . . In the use of eserine a step in advance has been made in ocular therapeutics. I do not exaggerate when I say that,

thanks to our being able to substitute it for atropine, we are able to save eyes which formerly would have recovered, if at all, only with a more or less considerable staphyloma—a condition which would have left scarcely any hope of a restoration of vision."

I have used eserine quite extensively in corneal ulceration, and with marked success. One case of large ulcer of the cornea is worthy of allusion. It followed measles in a girl of fourteen, and the ulcer had reached, when I saw it, the extent of about five millimeters in one direction and two millimeters in the other, while on the floor of a portion of the ulcer, about two millimeters in diameter, Descemet's membrane protruded forward, showing that all the corneal tissue at this portion had been removed by the ulcerative process, and that perforation was about to occur. I instilled a half-per-cent. solution of the sulph. of eserine (a convenient strength) thrice daily for several days, and afterwards once a day. The ulcer healed rapidly and with but a small leucoma, not more than a millimeter in diameter—a condition which could not have been looked for without the eserine treatment.

At present the price of eserine is too high, but as the demand increases for it more of it will be made, and it will become less expensive.

Jaborandi and Pilocarpine: These have been frequently used, and as their efficiency becomes better known their exhibition will be more general for the purpose of promoting the absorption of intra-ocular hemorrhages, opacities of the vitreous and aqueous humors. These remedies probably act with more certainty and fulfill the purpose better than any others known to us.

Dr. Landisberg, of Philadelphia, published in the *Archives of Ophthalmology*, vol. 8, No. 1, a very interesting paper on this subject. Landisberg has also, in the *Medical Times*, of Philadelphia, for April 26 and May 10, 1879, published his later experience on this subject, which confirms the favorable results of his earlier use of these drugs.

The doses of the jaborandi averaged sixty drops of the extract and from one-sixth to one-fourth of a grain of the muriate of pilocarpine, the latter hypodermically administered.

Dr. Hasket Derby, in the Boston *Medical and Surgical Reporter* of March, 1879, published some remarks on the relative frequency of glaucoma in America and Europe. Dr. Derby from statistics finds the disease more frequent in Europe, the percentage being in 1.24; in America, 0.66.

Derby mentions in one of his cases of glaucoma an interesting fact, viz.: that pain persisted while the anterior chamber was open, and disappeared on the healing of the wound—a point he believes against the infiltration theory.

Litten, in the Berlin *Klinische Wolkenschriften*, No. 14, of 1878, relates a case in which there was amyloid degeneration of the kidneys without albumen in the urine. He found neuro-retinitis and the fundus of the eye gave the picture of a retina corresponding to that found in retinitis

albuminurica. This is important, and shows the necessity for a general use by general practitioners of the ophthalmoscope in diagnosis.

F. C. Hotz, in July number of 1879, *American Journal of Medical Science*, reports six cases of optic neuritis which were, he believes, attributable to sunstroke. All recovered. He believes that congestion in the brain leads to congestion in the sinuses and possibly to effusion, which is, "according to Schwalbe, transferred to the intervaginal space, producing symptoms of choked disk."

TREATMENT OF SYPHILIS BY HYPODERMIC SUBLIMATE INJECTIONS.

BY F. SIEBER, M.D., ELLSWORTH, KANSAS.

Owing to the small space allotted to this paper, I will commence with Dr. Lewin's treatment of this disease. The standpoint from which I view all syphilitic processes, is the "dualismus." From this standpoint I must strictly divide the "ulcus molle," which is a primary affection, from the "syphilitic sclerose" and its sequels.

I. Definition. Under hypodermic sublimate injection, we understand a treatment of constitutional syphilis, introduced by Dr. Lewin, professor at the Berlin University, by which the different forms of it are radically cured by injecting the sublimate solution of certain strength in the subcutaneous tissue. The treatment has the great advantage over others, that we need no preparatory or after treatment: the first injection is the beginning and last, the completion of the cure.

II. Technic. 1. *The instrument* we use is the hypodermic syringe. It is useless for me to explain the way of using this instrument, as all are familiar with it.

2. *The choice of the place* for injecting is best left with the patient, as the injection is absorbed in one part as soon as in another; all we have to consider is, how to produce the least pain; and I have found that the infrascapular region is the least sensitive of all, probable because the muscles located there are, by the common motion of the body, less active than others, and we are not as liable to strike a nerve or blood-vessel; the only exception is, if we have a patient who is unable to leave the bed, then the lower extremities are more convenient. We have also to avoid all places near the larger glands, the regio-cervicalis, submaxillaris, inguinalis, cubitalis.

3. *The solution* for the injection is of three different degrees of strength: 1. Three grains to one ounce or eighteen centigrammes to thirty grammes; 2. Four grains to one ounce or twenty-four centi-

grammes to thirty grammes; 3. Six grains to one ounce or thirty-six centigrammes to thirty grammes, of the sublimate of mercury to aqua distillata. As strong a solution as the third we seldom use, as it produces, very easily, local irritation and abuses; and as weak a solution as the first is not effective enough. From which of the solutions mentioned to select depends on the sensitiveness and condition of the patient; we generally use the medium, four grains to one ounce. A peculiarity is, that a patient reduced to a weak state through this disease alone, bears the stronger solution very well, but if they are reduced by purging and sweating, or dieting treatment, we have to begin with the weaker solution. The stronger solutions are mainly indicated by syphilitic affection of the brain, throat, eyes, and testicles; we may also use the stronger solution in cases where the patient is willing to bear a little more pain to be more quickly cured. To allay the pain the injection sometimes causes, we may add a little morphine, $\frac{1}{10}$ grain to one injection; I have found very few cases where it was necessary. I will mention here, that I have found persons where this combination of sublimate and morphine acted as a narcotic, stronger and quicker than morphine alone.

4. *The dose*, to be used at one injection, or daily, is from six milligrammes ($\frac{1}{10}$ grain) sublimate to twenty-four milligrammes ($\frac{2}{5}$ grain). By using the larger dose we must expect symptoms of intoxication, (of which I will speak further on.) In some urgent cases, we may give two injections of the medium strength and dose a day, (morning and evening.)

III. Disturbing Symptoms, which sometimes follow the injections. *Local inflammation*, which generally disappears after a short time. *Abscesses*, I will state here, that of thousands of injections I have had only one abscess, and this was on the arm where the patient wished me to inject. Dr. Lewin says that he, before he introduced this treatment into general practice, in experimenting, found that when he injected the solution near a large gland (the main depots of *materia peccans*), it produced an abscess, but those abscesses never became troublesome. I will say, that almost invariably the most sensitive persons, after two or three injections, do not mind the pain produced. In cases where the patient is afraid of the insertion of the needle, I produce local anæsthesia, before injection.

General disturbances. By using this treatment, we seldom find any symptoms of hydrargyrose following.

We will now view in short the disturbances which the sub-cutaneous injected mercury produced on the different organs in exceptional cases.

a. The disturbances in the *digestive organs.* Those troublesome disturbances which we find by the internal use of mercury, such as stomatitus and ptyalismus, are found by the hypodermic use, very seldom. Ptyalismus appears, when the patient comes to us a short time after he

has used mercury internally, but it is never severe enough to cause any interruption of the treatment. Local applications to the mouth will always subdue this trouble.

b. Disturbances in the *organs of respiration* and *circulation*. We car assure you there never are any.

c. Disturbances in the *uropœtic* organs. There were none ever noticed. To the contrary of what the English physican, Pavy, asserted, that mercury is very injurious to the kidneys, Dr. George Lewin shows that he used it as injections where the cases were complicated with albuminuria; he found, after a few days, no albumen in the urine. It is the same with sugar, also, that there never was a bladder, or urethra, injuriously affected by this treatment.

d. The hypodermic use of sublimate never produces anything like symphoresis periostei mercurialis, which follows so often the internal use of mercury.

e. Disturbances in the *hæmatosa*. We know for certain that mercury will affect the same, more or less, producing cachexy in the form of chlorosis and anæmia, but in administering the sublimate hypodermically we are seldom troubled with it. In cases where the syphilis, probably through changes of the white globules, and by dimishing the red globules, produces a state similar to chlorosis and anæmia, there is where our treatment shows the most surprising results in a radical cure, so that often persons, after the treatment, are not recognized by their nearest friends, because of their healthy and robust appearance. Dr. Lewin has used the injection daily, often on women through the period of menstruation, without injury.

f. Disturbances in the *nerve system*. We must say that, contrary to other writers, neither Dr. Lewin nor any of his followers ever had any alteration in the sensiferous or motorial sphere which could be laid to the use of mercury; we never had anæsthesia, hyperæsthesia, spasms or convulsions, spinal or cerebral paralysis; no vertigo, mercurialis, or psellismus, or aphonia, epileptic or apoplectic attacks to record In but three cases Dr. Lewin noticed, after fifteen years of the strongest injections, a slight mercurial tremor.

Under our treatment we find great physical improvement; the most down-hearted person, after five or six injections, becomes brighter and hopeful. Whether this improvement in the psychical sphere is the result of the visible improvement of the patient in general, or those injections acting as an alterative on the nerves, we cannot decide.

The intoxication, which Dr. Lewin calls the *acute sublimate intoxication*, appears only when we give the strongest solution in the largest dose. Those symptoms of intoxication are very interesting, because they are the symptoms of the fullest absorption of the sublimate by the system, and also are doubly interesting because their appearance is not influenced by other circumstances. The symptoms of this in-

toxication are similar to malignant gastro-enteritis, which is the more surprising, as the whole tractus-intestinalis does not come under the *direct* influence of the metal. Those symptoms are easily overcome by the use of analeptica and nutrientia. Should there be any dysentery, we use opiates, and if there is any vertigo we use excitantia.

IV. THE DIET. There is where this treatment successfully outrivals all others, as we need not request our patient to change his diet or habits of living in any way; at the beginning of the treatment, we have only to forbid the use of spirituous liquors. Beer or wine, in small doses, does not interfere with it. We generally advise our patient to live on rich, nourishing food. I will mention here, that patients who have already undergone other treatments often have a notion that they must take laxatives, without informing you; which, under our treatment, is not only useless but injurious. In psychical relation, we must caution our patient to avoid excitement of any kind, because it will easily produce mercurial erethismus. This is a great fact which we must keep in mind, and if the patient claims he is so situated that he cannot avoid it, better not begin the treatment at all.

We often find patients who abuse the liberty given them, and become overjoyous because of their speedy improvement; in such cases, we must caution them not to overstep the *ne quid nimis*. This class of patients are often found among clerks and officers, as our treatment does not interfere with their daily duties or way of living, neither with their place of business, or boarding. In view of these facts, which have been made known to them, they are often led not to follow the advice of their physician, and so go beyond their limits. We all know that patients under other treatment undergo the ridicule of their friends, who ascertain easily by their way of living, the nature of the disease from which they suffer. Of course there are some fatiguing and exciting occupations which have to be stopped at the time of treatment.

V. INDICATIONS for the use of the sublimate injections. This treatment is then indicated, when the diagnosis is *constitutional* syphilis. We begin with the syphilitic *sclerosis* and the *condylomata lata;* in such cases the total dose from gr. 1½ to gr. 2 (sublimate) is sufficient for the involution of the sclerosis. When there is ulceration in these cases, we do not treat them locally at all; after gr. ½ of the sublimate is injected, they heal without any trouble; also, the condylomata lata disappear after a few injections (they actually shrivel and drop off); the red spots which remain change in a few days to a brown yellow, and in a short time disappear entirely.

There are two species, which Dr. Lewin calls: the "*condylomata verrucosa,*" and "*condylomata mixta.*" These species are very rebellious, and need local treatment besides, (scissors and caustic.) Further, all of the syphilitic processes, such as enlarged glands, indications of a more advanced state of the disease, need treatment by sublimate injec-

tions. Of this I will say that in some cases of enlarged glands, after ten or twelve injections, we find the improvement seems to stop. The best course is, then, to interrupt the treatment for one or two weeks, and then by resuming it we will have no more delay of the cure. In long practice, it has been proven that the quickest and best way is, not to meddle with the treatment by applying ointment or local applications to the glands. In affections of the throat, we generally support our treatment with medications through the atomizer. . . .

I will say, that after fifteen years' trial, all things considered, the superiority of ours is manifest, and all experiences and experiments and statistics have proven beyond a doubt that the simple hypodermic injection of sublimate, as a treatment, stands on its own merits, unequaled by any other known on this planet.

I will say a few words before closing, about relapses after hypodermic treatment. Statistics of thousands of cases, taken in Vienna and Berlin, show 85 per cent. less after our treatment than the lowest per cent. of any other, and most of them were the regressive form. Of some weight is the fact that in relapses it takes only a few more injections to make all symptoms disappear entirely.

As this paper is already quite lengthy, I will not add to it by citing cases which were radically cured by this treatment that were considered incurable.

Gentlemen, if you will give this treatment a fair trial you will be astonished at the results. I have never seen a case yet, of secondary, tertiary, or hereditary syphilis, where the disease did not entirely succumb under this treatment.

DISCUSSION.

DR. TODD: I have had some experience in the hypodermic use of mercury within the last few years, quite favorable to that method of using it. All the cases have been secondary syphilis and the result has been uniformly good; a result that could hardly have been procured by any other treatment. The sensations of smarting at the beginning of the treatment are as stated in the paper, but they are only experienced at the beginning. I have a patient now undergoing this treatment and I have recommended a dose of morphine to be taken immediately before the injection — he uses the injector himself — but on the last few occasions he has not deemed that necessary. I have used chloride of sodium and mercury, which I saw made it less likely to be productive of sores than the corrosive sublimate. I saw no sores as the result of the other treatment. I think we all ought to give this treatment a more extended trial.

DR. MCCULLY: Every advance in medicine is not proven till we have investigated the subject thoroughly. I can't say that I agree with the

author in all his statements, because my experience and observation have not extended so far as his. I believe, however, that the administration of the smaller doses of mercury would prove far more advantageous than the large ones.

ECLAMPSIA PUERPERALIS HYSTERICA.

BY C. C. SHOYER, M. D., LEAVENWORTH, KANSAS.

Mrs. S., aged 30, married at 17 and aborted a few months afterwards; fœtus a few weeks old; supposed to have been occasioned by an injury to the abdomen through falling against a fence. After this miscarriage or abortion she always had monthly convulsions. Again aborted at four months. Then carried a child eight months, and owing to the convulsions, had forcible labor induced by means of ergot, etc. Afterward aborted again at three or four months. Then had an induced abortion by means of ergot, etc., at seven months. The forced abortions were recommended to save her life, as she was supposed to have eclampsia puerperalis. There was at no time albumen in the urine. I attended her in her last confinement. Convulsions well marked and violent, frothing and biting of tongue; bit her arms and bit her attendants. Required strong arms of husband and some female friends to restrain her. Strong abdominal expulsive efforts, but uterus quiescent. I advised delay, urging delivery in forty-eight or seventy-two hours of a living child. In three days a living healthy female child was born during my absence and that of the husband, who came for me. The child is alive, aged fourteen months May 8, this year. No convulsions of any kind have occurred since, thus showing plainly the influence of the uterus in producing hysterical eclampsia. Now mark, this lady through a mistaken diagnosis had her life endangered, and lost the fruits of successive pregnancies. The diagnostic points in her case were very plain, no albumen in urine, no casts, no œdema, and pupils responsive to light.

NOTES OF THREE CASES.

BY J. W. BROCK, M. D., LEAVENWORTH, KANSAS.

I wish to bring to your notice two cases of morbus coxarius, my treatment of which, though at variance with the orthodox method, was a complete success.

CASE I.—A little German boy, aged four years, when brought to me presented the signs of morbus coxarius in the second stage, which are so clearly enunciated by Sayer. The treatment to have been prescribed in this case, as prescribed by the various authors, would have been extension in the line of deformity, with gradual reduction of the limb to the normal position, or aspiration of the joint. Instead of pursuing this treatment, I reduced the deformity at once, and applied extension. This was immediately followed by extensive swelling of the parts. By the employment of massage and stimulating embrocations, the swelling was speedily reduced, and the case went on very rapidly to a complete recovery.

CASE II.—Merritt, ætat six years. This case was almost exactly similar to the preceding one, and was treated in precisely the same manner. This child, however, was in a very poor condition, and I prescribed cod liver oil and the iodide of iron, with generous diet, etc. Recovery was not so rapid, but was most satisfactory. It is very evident that I ruptured the capsular ligament by my forcible reduction of the deformity, and the escape of the effusion into the tissues was the cause of the extensive swelling. Do not the results justify this treatment in all cases of morbus coxarius in the second stage, where the effusion has not become prevalent? The first case was under treatment three months, and the second six months—much shorter periods than are allowed under the orthodox method.

CASE III.—Nettie Waldron, æt. 11 years. This case first came under my notice May 24, 1879. Upon examination I diagnosed it as morbus coxarius in the second stage—stage of effusion. The deformity was marked, and clearly that of effusion into the capsule. The limb was apparently lengthened, adducted, everted, flexed in both joints; toes everted as in fracture of the neck; nates low and flat and the ilio-femoral crease obliterated. Pain could be elicited upon crowding the head of the femur into the acetabulum, and manifest relief obtained by slight extension made in the line of deformity. Upon close inquiry I discovered the exciting cause to be an injury incurred sometime during the previous March, which was not at that time considered of any importance. A pair of scissors thrown by another child struck the patient in the gluteal region of the right side, and the points, penetrating the muscular tissue, were delivered directly upon the bone at the inferior posterior border of the acetabulum. My first treatment was directed to the reduction of the deformity. This was accomplished by making extension in the line of deformity for several days, and at the same time gradually bringing the limb into its normal position. After this was accomplished, I applied extension and counter extension by means of a long side-splint, extending from the axilla to six inches below the sole of the foot. As the child was not very robust I prescribed cod-liver oil and iron, and at the same time directed the attention of the parents

to the necessity of a generous diet, fresh air, etc. In the course of two months great improvement was manifested; but the joint of the opposite side—left—became involved. I immediately changed the splint to that side. Here the improvement was not so rapid, and on October 15 a discharge took place near the outer border of the left labia majora. This gradually ceased, and the case went on to a complete recovery.

REPORT ON DIPHTHERIA.

BY D. J. ROSS, M.D., OSKALOOSA, KANSAS.

The dreadful havoc made by diphtheria in some parts of Europe, as well as the late epidemics in our own country, has awakened a new impetus in the study of it; and it is well that this impetus has been given, for there is no disease to which humanity is subject, upon which there is such a contrariety of opinions—in fact there is no point, either as to its etiology, pathology, or therapeutics, that is not disputed. In presenting this subject I do not expect to be able to offer anything that is new or original. The disease is not a new one, although the name is of modern application, and was suggested by Bretonneau. "It has been frequently described by Spanish, Italian, French, German, Swedish, British and American authors from the end of the sixteenth century to the present time." It has been classed among the zymotic diseases, and is both epidemic and contagious.

The manner the specific contagium of diphtheria is generated, is not yet definitely determined. Various causes have been assigned for its production, such as damp atmosphere, charged with the fungi of decomposition, bad drainage, the inhalation of sewer gas, peculiar principle generated by milk from diseased cattle, filth, etc. But all those causes have on more than one occasion been set at naught by the appearance of the malady when investigation proved that none of them existed.

The theory of some of the Germans is, that "epidemic diphtheria depends upon cryptogamic fungi whose spores can carry the disease." The fact of the existence of the disease under many and strikingly different circumstances proves that it depends on a specific virus, and once originated from any cause, or combination of causes, is communicable by the sick to the healthy, although all the reasons assigned may and probably do have more or less influence on its malignity.

The characteristic feature is the presence of a false membrane situated on the fauces.

At the outset of the disease there is fever, general prostration, a redness of the fauces, with more or less swelling of one or both tonsils.

The exudation usually appears on one of the tonsils, but it may begin in the nares, pharynx, larynx, or the palatine arches, uvula, and the posterior surface of the soft palate. The membrane is usually thick and opaque, of a washed-leather appearance; it is tough and elastic, and may be an eighth of an inch in thickness. Different cases differ in the extent of the exudation; one or both tonsils may be affected, and from this primary seat the false membrane may extend over the pharynx, soft palate, hard palate, palatine arches, and uvula, into the nares, larynx, trachea, bronchei, esophagus, and even into the stomach.

It may be uniformly diffused in those situations, but is oftener in irregular patches. The diphtheritic growth gradually penetrates beneath the epithelium, coming into close contact with the blood-vessels, and if detached, a raw, bleeding surface is exposed which is soon covered with a new layer of false membrane. Sooner or later the false membrane is thrown off, but the exfoliation is not infrequently followed by a second, third, and even fourth formation. Decomposition of the exudation often takes place rapidly, and hence arises the fetid effluvia exhaled from the mouth of the patient. The lymphatic glands are enlarged, and such enlargement is in proportion to the severity of the local manifestations; not only are those glands usually enlarged, but suppuration frequently takes place; and paralysis almost invariably supervenes. Niemeyer says that "the diphtheritic false membrane is composed of fibro-albuminous material, which rapidly coagulates when thrown out on the free surface of the mucous membrane." By some authorities it is considered to be a peculiar exudation, which, forming a favorable nidus for fungi, is often the seat of cryptogamic growth. Others maintain that the fibronous material is poured out only in consequence of instillation set up by parasitic fermentation, ramifying beneath the epithelial layers of mucous membrane.

Histologists are unable to agree as to what is seen when examining the exudation of diphtheria and the mucous membrane with which it is connected. Many eminent authorities adhere to the local micrococci or vegetable monad theory, among whom are Bretonneau, Trousseau, Letzerich, Oertel, and others.

Oertel, in his treatise on diphtheria, in Ziemssen's Encyclopedia, says: "In diphtheria we have to deal at first with an infection, which is localized, and afterwards with a general disease resulting from this, out of which may ultimately be developed still a later affection of various organs."

Another class of pathologists of equal eminence adhere to the constitution theory, prominent among whom are J. Lewis Smith, Flint, Solis Cohen, Lenox Brown, and others.

In the language of J. Lewis Smith, "The specific principle of diphtheria enters the blood in ordinary cases through the lungs, and after an incubative period, which varies from a few hours to seven or eight

days, produces symptoms which characterize the disease." Considerable discussion has taken place in regard to the diagnosis between diphtheria, scarlet fever, pseudo-membranous croup, idiopathic erysipelas, and folicular pharyngitis. Many contend that they — particularly pseudo-membranous croup — and diphtheria, are identical. That there is a strong family likeness between them, there can be no doubt. Yet we believe, with Flint, Oertel, Cohen, Smith, Letzerich, Trenlenburg, and Oppolzer, that they are separate and distinct diseases. Yet we will admit that in many cases the distinction is very fine indeed. "Wunderlich tells us that in no disease is the thermometer of as little service in diagnosis as in diphtheria." When we have erythema of the neck and chest, accompanying diphtheria, the diagnosis will be extremely difficult between it and scarlatina. Wagoner, Meigs, and Pepper, contend that "neither ocular nor microscopic examination of the deposit in the throat can distinguish those two diseases," and "assure us that we must look to the general symptoms for a diagnosis."

Sir John Rose Cormack thus contrasts the pellicle of diphtheria with that of scarlatinal sore throat: "That of diphtheria is a tough, strong membrane, difficult to tear; the scarlatinal simulation being a pultaceous and easily-torn stratum of detritus, or a portion of gangrenous mucous membrane; nevertheless there exists in some cases great difficulty in establishing an absolute diagnosis. Diphtheria, as Graves and others have shown, and Trousseau has admitted in his later teaching, often follows so close in the wake of scarlatina as to seem one of its later stages. False membranes, diphtheritic membranes, form in the larynx and pharynx, as an immediate sequel of scarlatina. In such cases diphtheria has closely followed, or been engrafted in the original attack of scarlatina. Dr. Tracy, of Melbourne, says: "I think the distinction between bad scarlatinal sore throat (with exudation) and diphtheritic sore throat is very fine indeed." The erythema that is occasionally seen on the neck and chest of patients suffering with the diphtheria, appears at irregular periods, is partial, appears suddenly in patches, does not gradually deepen in intensity, is of a uniform erythematous redness, and without the punctated appearance peculiar to scarlatina. The strawberry tongue of scarlatina is not seen in diphtheria. Albuminuria occurs in the course of diphtheria, but towards the close of scarlatina. The sequelæ of the two diseases are entirely different: desquamation, renal dropsy, or tubular nephritis, are among the sequelæ of scarlatina, but not diphtheria; and, upon the other hand, paralysis is a common sequel of diphtheria that is wanting in scarlatina. The diagnosis between diphtheria and idiopathic erysipelas (a rare disease) is not easy, but in erysipelas there will be more swelling and puffiness of the throat and surrounding parts, which are, besides, often ædematous — the exudation is less membraniform and the tongue dark brown or black, dry, and deeply fissured.

The points of differentiation between diphtheria and pseudo-membranous croup are: That croup is due to the ordinary causes of inflammation, namely, taking cold. Diphtheria is due to a subtile blood poison. Croup is a local malady. Diphtheria is a constitutional disease. Croup is sthenic in character. Diphtheria is asthenic. The exudation in croup is confined to a single track. In diphtheria the exudation will be found on other surfaces than the larynx and its passages. Croup is a sporadic disease. Diphtheria is epidemic. Croup attacks only those between the ages of six and sixteen years. Diphtheria attacks all ages. Croup is not contagious. Diphtheria is both contagious and infectious. In croup the exudation never penetrates the mucous membrane under it. In diphtheria it always does. In croup the pulse is strong. In diphtheria it is weak. In croup the pharynx is slightly affected. In diphtheria pharyngeal symptoms precede. The sequelæ of diphtheria are enlargement and suppuration of the lymphatic glands, hemorrhages, paralysis, etc., none of which occur as sequelæ of croup. In croup death occurs by apnœa. In diphtheria most frequently by asthenia.

The points of differentiation between diphtheria and folicular pharyngitis can be made out by throwing a stream of warm salt water on the exudation from a syringe. The exudation in folicular pharyngitis will be torn up, and the mucous surface beneath will be found pitted with shallow pits or depressions, or deeper cavities, with precipitous and jagged edges; or, a probe may be passed through the membrane into the cavities spoken of, which will at once settle the fact of its being folicular pharyngitis, as those pits or cavities are not found in diphtheria.

There is no disease in which the prognosis is so uncertain as the one under consideration. This uncertainty is due to the fact that it terminates fatally in several distinct ways. According to Smith, death may occur: "1. From diphtheritic blood poisoning. 2. Septic blood poisoning, produced by absorption from the under surface of the decomposing pseudo-membrane. 3. Obstructive laryngitis. 4. Uremia. 5. Sudden failure of the heart's action, either from anæmia and general feebleness, from granulo-fatty degeneration of the muscular fibers of the heart, which is liable to occur in all infectious diseases of a malignant type, or from ante-mortem heart-clots. 6. Suddenly developed passive congestion and œdema of the lungs, probably due to feebleness of the heart's action, or to paralysis of the respiratory muscles."

Among the symptoms which render the prognosis unfavorable, are: A repugnance to food, vomiting, pallor of the countenance, with progressive emaciation from the blood-poisoning. A large amount of albumen, with casts, in the urine. A free discharge from the nostrils, or occulsion of them from inflammatory thickening, hemorrhages from the nostrils or fauces, and obstructed respiration.

The question of prophylaxis, is one of vital interest in connection

with this disease, and as far as I am informed has not been very thoroughly studied. I believe a great deal might be done in this direction, if proper efforts were put forth. Those remedies which are powerful in treating the disease, will most probably have some power to prevent it. If the theory advanced by M. Isnard of St. Arnaud, of the action of perchloride of iron is correct, it will certainly prove a valuable prophylactic in this disease. He says: "1. Action on the blood, the fibrino-albuminous elements of which it renders more plastic, and prevents their transudation through the respiratory mucous membrane; or, later, in infectious cases, through the walls of the uriniferous tubules, cutaneous wounds, the serous membranes, etc. 2. Action on the respiratory mucous membrane, the fibrino-albuminous elements of which it also renders more plastic, and contracts the organic framework. Thus the mucous membrane becomes incapable of being traversed by the albuminoid principles of the blood. 3. Tonic corroborant action upon the nervous system, the essential action in the view of most physicians, unquestionably, but of very secondary importance in its direct action upon diphtheria." . . . "It is a specific in some sort of sense for diphtheria, though not in the full acceptation of the term, but it prevents intoxication. It does not destroy existing infection, but it arrests it in its increasing progress, and thus gives to the organism the faculty of reacting, of throwing off the toxic princple, by its own forces and the natural emunctories." It is only by careful experiment that the truths of these theories can be ascertained, and it will certainly do no harm to try it, and may possibly do an infinite amount of good. I have tried it on several occasions, and I have thought that I have succeeded in preventing the spread of the disease by its use. There is another prophylactic plan that I would urge in all cases, and that is isolation. As soon as you discover a case of diphtheria in a family, isolate it from the remainder, with the exception of the necessary nurses. In this way you may succeed in arresting the spread of this dread malady. There is as much difference of opinion with regard to the proper therapeutics of this disease as to its pathology.

Swerengen regards as such prompt cinchonism.

Shothir, of Dresden, sulphurous acid internally.

Chapman, of Brooklyn, alcohol; Buckholz, Klebs, Braun, Max Schuller, and Jacobi, benzoate of sodium.

Sanson, sulpho-carbolate of sodium.

Anbrun and M. Isnard, perchloride of iron.

It has been well said (and I believe it will be safe to say that it is the experience of a vast majority of physicians who have seen much of the disease), that "there is no known antidote to diphtheria, in the sense that quinine is an antidote to malaria."

The class of pathologists who hold to the local, or micrococci theory, place their reliance on local measures for the destruction of the parasite, believing, as a great many of them do, that the early and vigorous

application of such remedies as will destroy the bacteria or monads, will prevent their becoming absorbed and thereby prevent blood contamination.

Those holding opposite pathological views, place their reliance upon constitutional treatment and employ local treatment only as palliative, and in fact they believe all local treatment, unless it be of the mildest character, instead of doing good, does absolute injury.

Henoch, dividing the disease into three grades of severity, says the milder cases are cured with any, and without any treatment.

The more severe, by no treatment as yet known, can be prevented from becoming still more severe; whilst the most severe, including the gangrenous and most cases of laryngeal disease, are fatal under any treatment.

The plan of treatment that has been most successful in my hands, has been to support the strength with tonics, and stimulants if necessary, and the following given:

R.—Permanganate of potassa, grains 4; aqua, ounces 4. A teaspoonful every two hours, alternated with a teaspoonful of the following:

R.—Flu. ext. belladonna, gtt. 8; aqua, ounce 4. M.

And I direct the throat to be sprayed every hour or two, with the following:

R.—Potassa chlo., hyposulph. soda, a-a drachm 2; tinct. capsici, drachm 1; alcohol, ounce 2; aqua, ounce 4. M.

If danger should become imminent from laryngeal obstruction, the question of tracheotomy will have to be considered. The rule that should guide the physician is to operate as soon as it becomes certain that death is, or will be likely to occur from suffocation. I believe with Trousseau, that there are no contra-indications. But the earlier the operation is performed the greater the chances are for success.

DISCUSSION.

Dr. Cochrane: I would like to ask Dr. Ross's opinion on the use of stimulants in diphtheria. This is a question of great importance. It is said by some that alcohol is as certain a cure in diphtheria as quinine in malaria.

Dr. Ross: I am a firm believer in the use of alcohol in diphtheria. I know that some authors contend that it is almost a specific. My experience through three epidemics of this disease, is that we can't well get along without it. I employ it to such an extent as the individual case demands, regulating the quantity according to the age of the patient, aiming to produce a stimulating effect. I give it internally till the effect desired is produced.

DR. COCHRANE: I agree with Dr. Ross in the use of alcohol. I would further ask him his opinion as to the use of cathartics.

DR. ROSS: I never use cathartics very extensively; I consider that they do an injury. The object is to build up in every case. I have them take all the nourishment they can, particularly milk. It is true there is a theory that the disease depends on milk from diseased cattle, but I think in this country, the more milk I can get the patient to take the better.

DR. WOODWARD: I would like to ask in regard to the accompanying paralysis.

DR. ROSS: I have seen at least 200 cases of diphtheria, and not to exceed one dozen that were not attended by some form of paralysis.

DR. TAYLOR: We are often confronted with the question of tracheotomy in this disease, and I think it would be well for us to tell each other what success we have had. I have seen it performed where beneficial results followed for the first twenty-four hours, and then the membrane would form below the opening, and the patient die.

DR. ROSS: I would say that in an epidemic of this disease, that occurred in Illinois, in 1876, the question of tracheotomy came up, and the operation was frequently performed, full reports of the results of which can be found in the Transactions of the Illinois State Medical Society. Two of them I performed myself, and I assisted at another. Two of them resulted in the recovery of the patients; one proved fatal by the closing up of the larynx below the wound. If a tube is used, it is absolutely necessary to frequently remove it and clean it; often the reason the patient dies is the fact of the closure of the tube or canal below the opening. In two cases a tube was used, but in the other I used a common hair-pin, to retain the opening. The opening is often too small.

DR. TAYLOR: The operation I refer to was performed by Dr. Sheldon, of Topeka, and it gave immediate relief. The patient had been suffering for hours, but in twenty minutes she had a good circulation and plenty of oxygen. We had a double tube, and removed the inner one and cleaned it frequently. The outer tube seemed to be a source of irritation. I had decided, if I ever had occasion to operate again, I would cut out a little piece of the trachea.

DR. WOODWARD: I would like to ask Dr. Ross where the paralysis attending diphtheria is located.

DR. ROSS: We had several fatal cases, but paralysis did not exist in any particular set of organs. It appeared sometimes in the arm, sometimes in the face, and sometimes in the lower extremities. There is no fixed location for it to appear. Where the patient suddenly dies, we attribute it to paralysis of the heart.

STRICTURE OF THE URETHRA OF A LARGE CALIBER.

J. M. RICHMOND, A. M., M. D., ST. JOSEPH, MO.

I wish to present to your attention a few brief, but I hope practical thoughts, on stricture of the urethra. Not in the stage or condition in which it is most generally treated of, viz., narrow or close stricture, but in its initiatory or forming stage—stricture of a large caliber. I would not do justice to the subject in so brief a paper as this is intended to be, were I to undertake it in all of its stages, so I prefer to speak of it at present in its most common and frequently unrecognized form, in which it is so fruitful of mischief, if neglected—a point I propose to demonstrate, though it may not be classified as close stricture. I do this because the field, even as I have limited it, is a wide one for the exercise of preventive surgery, the most scientific of all surgery, and to call attention to a class of symptoms which are very significant, though generally but little notice is taken of them, at least in a proper way.

When we leave out of the question spasmodic stricture, which requires but little attention, congenital and traumatic stricture, which are comparatively of rare occurrence, we trace stricture in a large percentage of cases to urethritis as its origin, may be specific or simple.

And as gleet is one of the first and most constant symptoms of commencing stricture, I will speak of it, its significance and treatment, which will to a great extent include the management of stricture of a large caliber; giving several cases in illustration, including the history of two cases showing the evil results of stricture unrecognizable by the passage of a No. 8 sound, in which no relief could be afforded, though both internal and external urethrotomy were resorted to.

On first reflection we are likely to be incredulous of the statement, that gonorrhœa though so common and but little dreaded, is of the two, more frequently fatal than syphilis, that much dreaded scourge of humanity. Yet in the absence of statistics to prove, such are the supposed facts in the opinion of good authority. It is seldom, if ever, that either causes death directly, but both do so from their consequences.

A large percentage of all who have gonorrhœa sooner or later have stricture of the urethra. And it is from stricture, rather its consequences, kidney, bladder diseases, etc., that we look for serious results. Syphilis, except in its rare visceral form, we at least can control by treatment. Not so with organic diseases of the bladder and kidneys, the result of neglected stricture.

A patient has gonorrhœa, from which he recovers, so far as he can tell, save a little gleety discharge, to which he attaches no importance. After a while, it may be one, two, five or more years, he has considerable trouble in urinating. It is too frequent, or dribbles after the act, or is painful. He consults his physician and gets a *prescription*. Matters grow worse, until in a fit of indigestion, violent exercise, chilling of the lower extremities, or some other exciting cause, there is retention.

For the first time the urethra is explored, and an impermeable stricture is detected, necessitating aspiration, puncture of the bladder or perineal section, which may close the scene. Or should he survive, it may be only to awaken to a knowledge of the fact that he has an incurable bladder or kidney disease, which may soon prove fatal or make life such a burden that death would be preferable. And all this the consequence of an insignificant clap, to which was attached but little importance.

True, we cannot always, under the most skillful treatment, conduct a case of gonorrhœa so as to insure against these results. But what we can do, and what it is our duty to do, is to instruct every such patient in the possibilities, or probabilities, and that he must, on the persistence of a gleet, or appearance of a urinary trouble, seek advice while we can command the situation, and where preventive surgery can do so much.

Gleet, the almost constant attendant of urethral lesions, save in acute diseases, is only a symptom. But a symptom which demands our investigation as to its cause, this being due to a number of different pathological conditions. Consequently it is different in its character. May be purulent, mucoid or glairy, as of mucus, prostatic or seminal fluid. Gonorrhœa frequently winds up with a gleety discharge, which may cease or not, or if ceasing, may return. When it persists or returns, it is significant of a local lesion.

There are a number of special, but exceptional causes of gleet, such as inflammation of Cowper's glands, or vesiculæ seminales, or prostatic diseases, etc.

My remarks will be confined to the most common causes, viz.: forming stricture, or altered patches of mucous membrane; these two frequently existing together, or sexual disturbance which is sometimes overlooked. But of all causes, stricture is the most common, and the slightest deviation from the normal caliber of the individual urethra is sufficient.

Your diagnosis—stricture, congested or altered patch being clearly made out, it is gratifying to see how gradually and surely relief comes under the use of the steel sound, where months and even years of injections, cauterizations, etc., have failed; and not only failed but allowed matters to grow worse.

A frequent mistake made, when the stricture has been detected, is too great haste in the dilatation. The irritating effect of one sitting,

which usually lasts from three to five or six days, must disappear before another. The passage of a full-sized steel sound is usually sufficient to restore the congested altered patches. But should it fail, the cupped sound is the best means of local medication.

Stricture of the meatus should always be cut. Occasionally a resilient stricture far back, though admitting a full-sized sound, will require internal urethrotomy.

The character of the discharge is worth something as a diagnostic feature. When purulent or mucoid, it is indicative of an inflamed or congested patch of urethra, either with or without stricture. When mucus is nearly clear or bluish, it points to stricture or sexual disturbance. Sometimes, in cases where you can detect no urethral lesion, urethral and sexual hygiene with tonic treatment is all that is necessary, leaving off all specific treatment, which is occasionally the cause of a continuance of the discharge. A graded set of bulbous bougies, or Otis's metallic bulbs, are all that is necessary for an accurate diagnosis, not only of its presence, but its caliber and extent.

I will select a few cases from my notes in illustration of the main points I wish to insist upon, and showing the necessity of a close diagnosis in each case that comes under our care. Sounds used are graded by the English scale.

Case I.—Mr. S., married, had gonorrhœa five years previously, ending in gleet, which never got entirely well. Now says he has spermatorrhœa, with frequent urination; is hypochondriacal. Says he has no stricture, for which the urethra has been explored, but that there is vesical irritation, with a slight sticky, clear discharge, which glues the meatus together. Exploration detects a narrowing two and one-half inches from meatus, with a stricture in the membranous portion No. 11 in caliber. My first endeavor, as in all chronic troubles, is to secure the patient's confidence. The nature of his malady is explained to him; he is instructed in urethral and sexual hygiene, and encouraged with the promise of relief as surely as we can promise anything in surgery, and requested to visit my office once a week, his home being some distance from the city. In six weeks he is discharged, armed with a No. 16 sound, which he introduces seemingly with greater care than I can. He is instructed to use it once a week for awhile, then at gradually lengthened intervals. The treatment proves successful, he having visited me several times since, in good health and cheerful.

Case II.—Mr. P., married, had gonorrhœa two years ago. Has had a gleety discharge, mucoid, ever since. Diagnosis: stricture in bulbo-membranous portion of urethra recognized by a No. 12. Treated by gradual dilatation carried to 14, the supposed natural caliber of the urethra. Was discharged, with instructions to use his sound, a No. 14, once a week. After an absence of three months he returned, saying he had not received the promised relief. The dilatation is carried to

16, which proves successful. This case is illustrative of the necessity of thorough restoration to the natural caliber. Had he been a bachelor I might have attributed the persistent discharge to sexual unquiet. I believe that Dr. Noegarath's idea of "latent gonorrhœa" in women is correct, and that it has its origin in the class of cases which we are considering.

CASE III.—Mr. ——, bachelor, had gonorrhœa twenty months ago, followed by gleet of a purulent character, which still persists in spite of energetic treatment. I find a stricture about the middle of the pendulous portion, and one in membranous portion measuring No. 11, with altered mucous membrane back of first stricture. Dilatation carried to No. 18, failed to give relief until treated with glycerate of tannin, applied by the cupped sound. A clear discharge, only seen in mornings on rising, still remains, and which is due to sexual unquiet. Marriage alone is the cure for such cases. This is a point we should always keep in mind in treating a married man and an unmarried man. For in most patients the discharge and not the stricture is the alarming part; especially if it has not arrived at the point of frequent or painful urination.

CASE IV.—In the spring of 1878 I was consulted by Mr. S., bachelor, aged 21, who twelve months previously had gonorrhœa, followed by gleet. Latterly had frequent and painful urinations. Diagnosis: stricture at peno-scrotal junction, admitting No. 12. Dilation was carried to 16 the size of the meatus, and patient discharged with instructions to use his sound once a week. The relief not being satisfactory, he returned within a few weeks, whereupon I incised the meatus and dilated to 19. This cured him, save a clear discharge at meatus in morning, which disappeared after his marriage. He still uses his sound occasionally. The meatus is the narrowest point of the urethra, and stricture here will not bear stretching. Consequently in deeper strictures we frequently have to incise it before the dilatation can be carried to a successful termination.

CASE V.—Mr. G., married, had gonorrhœa three years previously. Said he had been much under treatment for two years with no benefit. Urination very frequent and painful. Told me he had no stricture. I could barely pass a No. 7 through the meatus. I incised it and passed a No. 16 into the bladder, meeting with no other obstruction. For a few days the sound was passed daily, then at lengthened intervals. In this, as in most cases, I gave alkaline diluents. Within three weeks he was well. Strictures at the meatus once healed; do not require the continued use of the sound as at the other points. I cannot say that the gonorrhœa was the cause of this stricture, but it damaged the urethra and the stricture prevented it from healing.

CASE VI.—Mr. P., bachelor. Gonorrhœa a year ago. Says he has an "obstinate case of gleet." I can find no urethral lesion. But there is a clear bluish discharge gluing the meatus together. This I regard

as prostatic, due to sexual unquiet. I advised marriage, which being accomplished he has had no further trouble. Many cures of so-called spermatorrhœa, from which quacks reap such a harvest, are of this character. In advising marriage we should be cautious, as it is never safe so long as the discharge is in the slightest degree purulent.

These are a few cases I have selected from my notes to illustrate the points I wish to impress upon your attention, as to the importance of giving heed to them, for they will most surely give trouble, resulting in organic disease of the urethra, bladder or kidneys, with great suffering, inconvenience, and death. In proof of which I will mention two more cases.

CASE VII.—C. B., bachelor, aged 30, medium height, fair complexion, much emaciated, stooped in figure, halting gait, countenance expressive of much suffering. Came first under my treatment in the early part of '72. Had gonorrhœa ten years previously, followed by persistent gleet. For several years had gradually grown worse, suffering from great irritation along the urinary track, with very frequent and painful urination, every 20 or 30 minutes. Urine gave no evidence of kidney disease, but was loaded with pus and mucus. Examination of urethra revealed stricture of bulbo-membranous portion, extending irregularly over one-half inch and admitting No. 8. There was extreme tenderness back of the stricture and of the bladder. He had been under treatment for several years, but the stricture had not been recognized. Suspecting there was already interstitial cystitis, I gave cautious prognosis. I commenced gradual dilatation, which was accomplished very slowly, owing to the sensitiveness of the parts. Dilatation to No. 18 gave but little relief. Failing in this, our main dependence, I used local and constitutional treatment, going through with all the suggestions I would find for such cases, at the same time keeping up the use of the sound—but all to no purpose. I thought of cystotomy, but the history of that operation made it too uncertain; especially in his weak condition, for about this time his digestion was much impaired, with a suspicious rale in the upper lobe of one lung. And external perineal urethrotomy, so far as I could learn, had only been used for narrow stricture.

Thus we pass over four years, making fourteen years of suffering for him, when he expressed a strong desire to submit to anything that even promised relief. In operating for stone in the bladder I had always found present extreme cystitis, which was almost well when the incision was healed. Believing that the relief came as much through the rest afforded the bladder from the necessary incision and dilatation as from the absence of the calculi, I determined, after two physicians had expressed an opinion favorable to his being able to stand the operation, to make an outlet through the perineum, performing the median as for stone, cutting through the strictured portion of the urethra.

This was done, and so long (about six days) as the urine flowed through the cut he got some relief, but soon was as bad as ever.

Some months afterwards there was a narrowing to No. 11 in the neighborhood of the perineal cut. Internal urethrotomy was performed with Otis's dilating urethrotome. But all this to no purpose. He died last summer from the consequences of *neglected* stricture of a *large caliber*.

CASE VIII.—Mr. D., married, came under my charge in the spring of '78. Diagnosis: stricture admitting No. 8. Was similar in most of its details to the last case, except that its origin could only be traced to masturbation. Internal urethrotomy was performed. He died soon after. Death due to *neglected* stricture of a *large caliber*.

REPORT OF COMMITTEE ON NECROLOGY.

ALFRED BRYAN TAYLOR, M. D.

It becomes the painful duty of your committee to report the death of Dr. Taylor, who was an honorary member of this Society. He was born in Uniontown, Pennsylvania, November 2, 1837, being the second son of a family of four. The parents were George W. Taylor, an estimable farmer, and Jane (Whittaker) Taylor. Both were of Scotch descent. In 1839 they removed to Coshocton county, Ohio, and in 1854 settled in Indiana. His paternal grandfather served during part of the Revolutionary war, and his father through the Mexican war.

Alfred received his early education in the common schools of Ohio, and subsequently attended Marion College, Indiana. He then began the study of medicine under the preceptorship of Dr. L. J. Dickens, of Wabash, Indiana, and attended his first course of lectures in 1858–9, at Rush Medical College, in which he graduated, and began his practice in Kokomo, Indiana. After practicing a year, he attended another course of lectures at the Ohio Medical College, Cincinnati, taking an adeundum degree.

He returned to Kokomo, and continued his practice until the breaking out of the war, when he was made a lieutenant in the Twelfth Indiana regiment, serving on the Potomac, under General Banks. A call being made for a volunteer to reconnoiter the enemy's camp, Dr. Taylor responded, and undertook the dangerous mission, which he carried out with great daring and skill. He spent two weeks in the camps of the enemy, making maps and gathering valuable information, and returned to his camp by swimming the swollen river. From the report given by him it was thought advisable to make an attack, and the boats were prepared to cross the river, when news arrived of the disaster of Ball's Bluff, and orders were received from headquarters that the river

was not to be crossed. The term of enlistment having expired, his regiment was discharged, but soon after reorganized, and Dr. Taylor was appointed assistant surgeon of the reorganized regiment, and was detailed on the surgical staff during the remainder of the war, having charge of different hospitals. He went on all of Sherman's campaigns, from Holly Springs, under General Grant, to Savannah, including the "march to the sea" and "'round to Richmond."

At the close of the war he came to Kansas City, where he practiced his profession until the time of his death. He and Dr. Todd organized the College of Physicians and Surgeons, in which he became professor of anatomy. He was soon after appointed to the chair of surgery, which he still held at the time of his death. He also lectured on clinical surgery at the City and Sisters' Hospitals.

When twenty-two years of age he joined the Masons and soon became a Knight Templar. He was not a member of any church, but exemplified the teachings of the good Samaritan in his life and work.

In 1865 he married Miss Jane Broudon, daughter of Montgomery Broudon, of Howard county, Indiana, by whom he had one son. His wife died June 22, 1867. July 1, 1875, he married Miss Elizabeth McCausland, daughter of William McCausland, of Lexington, Mo., a most estimable and accomplished lady.

In the practice of his profession he gave his attention almost entirely to surgery, in which he attained a proud eminence. He was recognized by the profession as a leader in the art of surgery scarcely second to any in the land.

From his career we may all learn a useful lesson. We may understand that a brave heart and correct judgment, coupled with energy and perseverance, can succeed in any calling in which we are chosen to act, and that merit and industry are sure of their reward. In every position in life he was prompt and fearless in the discharge of his duty, faithful to the trusts confided to his keeping, and as devoted to his profession as if it was his religious creed. He was fitted by nature and improved by education for the positions he so gracefully adorned, and his life is a monument to merit worth and zeal. He leaves behind him a name that will not soon fade from the memories of the profession, and an example in every way worthy of emulation.

JOHN GRASS.
E. R. SWEITZER.
W. M. HENDRICKSON.

REPORT OF THE EXAMINING BOARD.

To the Kansas Medical Society—GENTLEMEN: I have the honor of presenting the following report of the Examining Board of the Kansas Medical Society, appointed at your last meeting, under the law intended

"to regulate the practice of medicine in the State of Kansas," approved February 27, 1879.

Since the organization of the Board the following counties have been visited by one or more of its members, as is required by a provision found in sec. 15 of the law, which reads: "This act shall have no application to any county in this State unless a member or members of one of the boards provided for in sec. 3 of this act, duly qualified, shall have held a meeting for the examination of physicians in said county."

Allen.	Cowley.	Jackson.	McPherson.	Rooks.
Atchison.	Doniphan.	Jewell.	Morris.	Republic.
Anderson.	Davis.	Johnson.	Nemaha.	Russell.
Brown.	Douglas.	Lincoln.	Neosho.	Smith.
Bourbon.	Dickinson.	Leavenworth.	Osborne.	Sumner.
Butler.	Elk.	Linn.	Osage.	Sedgwick.
Barton.	Ellis.	Labette.	Ottawa.	Saline.
Cloud.	Ellsworth.	Lyon.	Phillips.	Washington.
Crawford.	Franklin.	Mitchell.	Pawnee.	Wilson.
Cherokee.	Ford.	Marshall.	Pottawatomie.	Woodson.
Coffey.	Greenwood.	Miami.	Reno.	Wyandotte.
Chautauqua.	Harvey.	Montgomery.	Rice.	Total, 63.
Chase.	Jefferson.	Marion.	Riley.	

By the provision read, of section 15 of the act, you will perceive that an official visit of one or more members of either board named in the act is sufficient to place the law in force in any county in the State. You will also discover by my report, that a number of counties of the State have not been officially visited by any member of your board. I am not advised whether a member of either of the other boards has visited any of the omitted counties, and cannot therefore state if the law stands in force in any counties except those named in this report.

On the pages following will be found the names of the graduates who have received certificates from your board. The school, date of graduation, number of certificate and present address are reported.

ROLL OF MEMBERS.

Name.	No. of Cert.	Residence.	County.	School.	Date of Graduation.	Year.
Adams, F. P.	383	Haven township	Reno	Jefferson Medical College	March 12	1873
Adams, Francis P.	668	Messer	Cherokee	Missouri Medical College		1861
Aikman, R.	479	Fort Scott	Bourbon	Michigan University	March 25	1868
Anthony, Wm.	292	Prescott	Linn	Jefferson Medical College	March	1855
Anderson, John B.		Chetopa	Cherokee	Ohio Medical College	March 1	1872
Atchison, J. B.	272	Doniphan	Doniphan	Long Island Hospital		1867
Ashmead, A. S.	274	Troy	Doniphan	University Pennsylvania, Medical Department	March 13	1869
Adams, R. D.	132	Camden	Morris	Long Island Hospital College	July 30	1864
Alexander, M. A.	243	Colfax township	Wilson	Louisville University	March 1	1870
Armstrong, John B.	331	Gardner	Johnson	Keokuk Medical College, Iowa	February	1868
Albright, Henry F.	214	Smith Center	Smith	University Philadelphia	February 24	1870
Armond, Alex. D.	215	Kirwin	Phillips	Rush Medical College	February 19	1852
Adams, Clark W.	395	Little Valley	McPherson	Geneva Medical College, N. Y.	June 22	1852
Allen, William	76	Cedar Vale	Chautauqua	Franklin Medical College		1849
Ayer, S. P.	485	Smith Center	Smith	University Vermont	July 7	1873
Abdelal, A. G.	482	Lawrence	Douglas	Montpelier Medical College	July 15	1852
Adamson, V. V.	284	Holton	Jackson	Bellevue Hospital	March 1	1869
Artois, P. A.	405	Clyde	Cloud	College Medicine and Surgery, Lower Canada	May 8	1866
Arrington, R. H.	181	Wyandotte	Wyandotte	Miami Medical College	March 28	1877
Austin, W. H.	430	Abilene	Dickinson	Rush Medical College	February 3	1869
Antrobus, B.	608	Beloit	Mitchell	The Ohio Medical College	March 2	1876
Allison, J. M.	627	Burlingame	Coffey	University Pennsylvania	March 13	1869
Alexander, Sam'l	640	Whiting	Jackson	Chicago Medical College	April 10	1869
Abeles, Edward	613	Fort Scott	Bourbon	Harvard Medical College	June 26	1878
Anderson, A. B.	572	Pawnee City	Pawnee, Neb	Louisville Medical College	February 27	1877
Bragg, R. S.	665	Lyons	Rice	St. Louis Medical College	March 5	1880
Bradshaw, H. N.	565	Superior	Nuckolls, Neb	Rush Medical College	January 25	1867
Brewer, B. E.	340	Joy	Lyon	LaCrosse Medical College	March 16	1865
Ball, J. Parker	575	Melvern	Osage	Missouri Medical College	March 1	1875
Bumbaur, N. S.	573	Clear Water	Sedgwick	Western Reserve Medical College, Ohio	February 4	1869
Bender, O. C.	569	Hiattsville	Bourbon	Jefferson Medical College	March 9	1867
Backus, T. L.	532	Topeka	Shawnee	Missouri Medical College	March 5	1879
Beatty, Geo. F.	574	Paola	Miami	Cincinnati College of Medicine and Surgery	June	1875
Biddle, Geo. A.	642	Emporia	Lyon	Bellevue Hospital College	February 26	1870
Brengle, W. B.	610	Wellington	Sumner	Rush Medical College	February 25	1879
Brierly, J. H.	587	Blue Rapids	Marshall	Sterling Medical College	February 25	1878

ROLL OF MEMBERS—CONTINUED.

Name.	No. of Cert.	Residence.	County.	School.	Date of Graduation.	Year.
Beeson, H. O.	657	Spring Hill	Johnson	College of Physicians and Surgeons of Kansas City	March 2	1880
Barr, A. C.	591	Tanne Hill	Cowley	University, Louisville	February 27	1879
Beard, Thomas C.	549	Rosedale	Wyandotte	Ohio Medical College	July 6	1863
Bair, T. C.	551	Holton	Jackson	Jefferson Medical College	March 12	1879
Blair, Alonzo	553	Bavaria	Saline	St. Louis Medical College		
Boyd, Gaston	379	Newton	Harvey	Ohio Medical College	March 2	1874
Burnett, Thomas		Arcadia	Crawford	St. Louis Medical College	March 13	1875
Barney, J. K.	321	Weir City	Cherokee	St. Louis Medical College	March	1872
Baugh, J. H.	345	Hepler	Crawford	Keokuk Medical College	February 13	1877
Baldwin, G. R.	318	Fort Scott	Bourbon	Bellevue Hospital College	March 1	1866
Baxter, J. H.	320	Columbus	Cherokee	Kentucky School of Medicine	March	1875
Bell, Douglass	330	Olathe	Johnson	Sterling Medical College	February 28	1865
Bell, W. H.		Oswego	Labette	University of Louisville	March	1870
Bennett, R. S.	334	Aubrey	Johnson	Kansas City College of Physicians and Surgeons	March 6	1877
Black, Wm. D.	353	Elwin	Crawford	Keokuk Medical College	February 19	1867
Boon, G. D.	359	Chetopa	Labette	University of Michigan	March 30	1870
Bryan, J. D.	301	Lewisburg	Miami	St. Louis Medical College	March 9	1870
Brown, Julia B.		Olathe	Johnson	Keokuk Medical College	February 16	1875
Brooking, S. L.	304	Stanton	Miami	Jefferson Medical College	March 7	1868
Barrett, H. W.	269	Waterville	Marshall	University of Buffalo	June 16	1847
Beal, W. R.	271	Palmer	Washington	Missouri Medical College		
Bliss, E. W.	279	Hiawatha	Brown	Jefferson Medical College	March 12	1869
Blakely, S. H.	277	Severance	Doniphan	Louisville Medical College	February	1875
Brownlee, J. G.	278	Fanning	Doniphan	St. Joseph Hospital College	March 15	1878
Bussing, James	283	Hiawatha	Brown	Keokuk College of Physicians and Surgeons	February 15	1877
Bradford, J. H.	133	Council Grove	Morris	St. Louis Medical College	March 1	1860
Brenner, Henry	442	Emporia	Lyon	Western Reserve Medical College, Ohio	March 3	1852
Brown, G. T.	121	Burlingame	Osage	Iowa State University	February 10	1864
Bennett, H. M.	236	LeLoup	Franklin	University of Michigan	March 27	1878
Brown, A. C.	251	Carbondale	Osage	University, Pennsylvania	March 8	1870
Bradbury, J. L.	486	Cherryvale	Montgomery	St. Louis Medical College	March 13	1869
Burgen, S. N.	25	North Topeka	Shawnee	University of Iowa	February 25	1868
Burdick, J. D.	18	Topeka	Shawnee	Howard University, D. C.	March 7	1876
Busby, H. A.	488	Independence	Montgomery	University of Pennsylvania		1869
Botts, J. O.	35	Matanzas	Chautauqua	Ohio Medical College	February 28	1878
Boynton, S. W.	377	Kinsley	Edwards	Louisville Medical College	February 8	1867

Burden, W. C	91	Raymond	Rice	Keokuk College of Physicians and Surgeons	June 14	1877
Burck, L. A	97	Peabody	Marion	Georgetown Medical College, D. C	March	1869
Bulow, Henry	397	Stafford	Stafford	Berlin Medical College, Prussia	March 9	1848
Banks, E. H	403	Ellinwood	Barton	Cincinnati College of Medicine and Surgery	June 29	1871
Barnes, W. C	506	Prairie Center	Johnson	Medical College of Indiana	March 1	1873
Bell, Henry	439	Salina	Saline	Georgetown University, D. C	March 10	1874
Booth, Z. S	157	Leavenworth	Leavenworth	Western Reserve College	February 24	1847
Bolinger, Wm. E	431	Cawker	Mitchell	Bellevue Hospital College	March 1	1878
Brock, J. W	151	Leavenworth	Leavenworth	University of Maryland	March 6	1855
Brattin, B. F	62	Medicine Lodge	Barbour	Rush Medical College	February 26	1878
Brooks, C. W	411	Enterprise	Dickinson	University of Vermont	June 18	1870
Buckmaster, W. H	64	Oskaloosa	Jefferson	Rush Medical College	January 25	1867
Broderick, James	675	North Topeka	Shawnee	St. Joseph Hospital College	February 27	1880
Chapel, A. J	519	Arkansas City	Cowley	Bellevue Hospital College	March	1871
Coleman, T. M	108	Newton	Harvey	Bellevue Hospital College	March 1	1866
Crane, C. W	521	Wyandotte	Wyandotte	Bellevue Hospital Coll. '74, and Sterling Med. Coll		1871
Chastain, W. D	653	Iola	Allen	University of Louisville	March	1870
Cummings, J. M	622	Larned	Pawnee	Jefferson Medical College	March 9	1858
Campbell, James	136	Council Grove	Morris	Dartmouth College	October 11	1871
Chase, D. W	630	Near Delphos	Ottawa	Jefferson Medical College	March 24	1846
Conroy, Thomas J	80	Florence	Marion	Kansas City College of Physicians and Surgeons	March 7	1879
Connell, R. S	663	Hepler	Crawford	Louisville University	February 27	1880
Cahall, Wm. C		Eldorado	Butler	Jefferson Medical College	March 12	1879
Clark, L		Manhattan	Riley	Medical University, Vermont	June 24	1840
Connell, R. W	245	Thayer	Neosho	Kansas City College of Physicians and Surgeons	March 12	1871
Cook, John A	233	Humboldt	Allen	Rush Medical College	February 16	1859
Campbell, W. M	448	Minneapolis	Ottawa	Cincinnati College of Physicians and Surgeons	February	1870
Cannon, Willis	219	Smith Center	Smith	College of Physicians and Surgeons, Iowa	June 10	1875
Crosswell, Frank	450	Lincoln Center	Lincoln	Chicago Medical College	March 21	1876
Chase, James S	86	Lyons	Rice	Cleaveland Medical College	March 4	1871
Carter, W. H	391	Cottonwood Falls	Chase	Cleaveland Medical College	March 1	1869
Chittenden, R. H		Cedar Point	Chase	Long Island Hospital Medical College	June 28	1866
Cory, Jerome B	28	Wellington	Sumner	College of Medicine and Surgery, Michigan	March 6	1862
				Chicago Medical College		1865
Cole, D. V	38	Winfield	Cowley	Missouri Medical College		1849
Callahan, A. B	162	Leavenworth City	Leavenworth	Ohio Medical College	March 6	1843
Carson, A. B	145	Dover	Shawnee	Ohio Medical College	March 1	1875
Cochrane, W. W	11	Atchison	Atchison	Medical College, University of Louisville	February 27	1849
Clemmens, A. J	263	Atchison	Atchison	Keokuk College of Physicians and Surgeons	February 25	1879
Cornwall, F. H	44	Germania	Sedgwick	Rush Medical College	February 15	1875
Clutter, W. H	333	Frankfort	Marshall	Cincinnati College of Medicine and Surgery	February	1866
Carter, W. W	260	Wathena	Doniphan	Jefferson Medical College	March 12	1873
Campbell, W. W	459	Atchison	Atchison	University of Michigan	March 26	1873
Cushenbury, J. H		Girard	Crawford	St. Louis Medical College	March	1872

ROLL OF MEMBERS—CONTINUED.

Name.	No. of Cert.	Residence.	County.	School.	Date of Graduation.	Year.
Cook, Howard	354	Ripon	Labette	University of Pennsylvania	March 10	1876
Connor, W. J	357	Labette City	Labette	Cincinnati College of Medicine and Surgery	February 12	1862
Coe, Ira E	298	Mound City	Linn	Jefferson Medical College	March	1867
Carpenter, J. M	303	New Lancaster	Miami	Miami Medical College	March	1872
Camp, W. F		Galena	Cherokee	University of Pennsylvania	April 3	1847
Coons, I. A	343	Spring Hill	Johnson	Sterling Medical College	February 20	1852
Carpenter, W. B	58	Leavenworth	Leavenworth	Cleveland Medical College	March 2	1853
Campbell, A. W	497	Clyde	Cloud	Toronto University of Canada		1859
Campfield, R. B	504	Buffalo	Wilson	College of Physicians and Surgeons, New York	March 7	1851
Cannon, J. R	502	Neodesha	Wilson	Keokuk College of Physicians and Surgeons		
Chase, Levi	63	Irving	Marshall	Bellevue Hospital College		1869
Christiancy, V. H	416	Springdale	Leavenworth	Rush Medical College	February 26	1877
Clark, C. M	440	Salina	Saline	University, City of New York	March 4	1857
Coffin, S. D	68	Fairmount	Leavenworth	Miami Medical College	March 1	1868
Converse, E. D	435	Beloit	Mitchell	New York College of Physicians and Surgeons	March 1	1875
Crowley, J. W	437	Salina	Saline	St. Louis Medical College	March 1	1861
Cunkle, L. J	421	Madison	Greenwood	Bellevue Hospital Medical College	March 1	1868
Crunkle, L. W	420	Madison	Greenwood	Rush Medical College	February 3	1869
Curtis, G. G	487	Cherryvale	Montgomery	St. Louis Medical College	March 12	1874
Cazier, Marion	669	Burlingame	Osage	Rush Medical College	February 24	1880
Chamberlin, Ellston	670	Atchison	Atchison	Rush Medical College	January 27	1864
Cline, Isaac	671	LaCygne	Linn	Kansas City College of Physicians and Surgeons	March 2	1880
Crans, J	672	Riley Center	Riley	Keokuk Medical College	March 2	1880
Craig, D. M	673	Winchester	Jefferson	Keokuk College of Physicians and Surgeons	February 17	1876
Day, S. W	387	McPherson	McPherson	University of Nashville	March 1	1872
Davis, C. H	82	Eldorado	Butler	Jefferson Medical College	March 10	1877
Donelson, ——	372	Elgin	Chautauqua	Cincinnati College of Medicine and Surgery	February 27	1877
Damour, F	74	Waterville	Marshall	Toland Medical College	March 1	1865
Dailey, J. W	438	Salina	Saline	Cincinnati College of Medicine and Surgery	June 24	1864
Downs, F. N	174	Tiblow	Wyandotte	Keokuk Medical College	February 16	1875
Davis, J. H	302	Louisburg	Miami	Missouri University	February 28	1856
Develbliss, S. B	455	LaCygne	Linn	Kansas City College of Physicians and Surgeons	March 6	1877
DeBall, J. M	310	Fontana	Miami	Keokuk Medical College	February	1857
Draper, J. B	364	Oswego	Labette	Rush Medical College	February 5	1868
Dickman, F. F		Fort Scott	Bourbon	Bellevue Hospital Medical College	March 1	1877
Dinsmore, R. S	273	Troy	Doniphan	Keokuk College of Physicians and Surgeons	February 14	1878

Dill, E. F	137	Council Grove	Morris	Washington Medical College	March 19	1835
Deming, J. E	491	Marion	Douglas	Rush Medical College	February 20	1856
Daily, J. F	447	Scottsville	Mitchell	Keokuk Medical College	February 14	1878
Donnell, E. J	210	Stockton	Rooks	Dartmouth Medical College	October 31	1864
Donnell, W. T	209	Stockton	Rooks	Dartmouth Medical College	October 31	1866
Dulin, E. A	206	Osborne	Osborne	Georgetown Medical College, D. C	March 2	1865
Doyes, R. L	646	Ellsworth	Ellsworth	Keokuk Medical College	March 2	1880
Douglass, F. N	648	Emporia	Lyon	University of Louisville	March	1870
Deford, H. L	240	Ottawa	Franklin	Jefferson Medical College	March 10	1864
Davis, W. R	520	Winfield	Cowley	Transylvania Medical College	March 1	1855
				Louisville Medical College	March 1	1866
Dwight, W. H	602	Fayette	Sedgwick	Syracuse Medical College, New York	February 10	1876
Dunn, F. P	601	Clarence P. O	Barton	College of Physicians and Surgeons, Beloit	February 29	1876
Dobyus, P. R	603	Arkansas City	Cowley	Butler University of Indiana	February 28	1879
Dodds, R. J. C	659	North Cedar	Jackson	University of Iowa	March 3	1880
Ensign, H. A	107	Newton	Harvey	Cleveland Medical College	March	1849
Eggleston, J. B	341	Olathe	Johnson	Keokuk Medical College	February	1858
Elder, M. D	316	Elsmore	Allen	Keokuk College of Physicians and Surgeons	June 18	1878
Elley, George	332	Aubrey	Johnson	Bellevue Hospital Medical College	March	1869
Eastman, B. D	22	Topeka	Shawnee	College of Physicians and Surgeons, New York	March 11	1862
Easly, W. H	17	North Topeka	Shawnee	College of Physicians and Surgeons, Keokuk	February 14	1878
Eakin, D. F	195	Beloit	Mitchell	Cincinnati College Medicine and Surgery	February 10	1858
Edwards, W. M	495	Pawnee City	Pawnee, Neb	College of Physicians and Surgeons, Keokuk	February	1876
Emerson, George	49	Winfield	Cowley	Union University, New York	January	1874
Endicott, J. M	32	Sedan	Chautauqua	College of Physicians and Surgeons, Iowa	June 14	1877
England, G. W	67	Larkin	Atchison	College of Physicians and Surgeons, Iowa	June 14	1877
Easter, E. D	661	Milan	Sumner	Keokuk Medical and Surgical College	March 2	1880
Fisk, Jos. H	563	Blooming Grove	Linn	College Medicine and Surgery, University Michigan	March 26	1857
Fitzgerald, S. C	624	Winfield	Cowley	Bellevue Hospital Medical College	March 1	1880
Foster, Charles	605	Osborne	Osborne	Harvard University	June 28	1877
Fulton, H. C	581	Harper	Harper	Jefferson Medical College	March 1	1875
Fallis, James M	637	Vincent	Osborne	St. Joseph Hospital Medical College	March 14	1878
Forrest, P	120	Burlingame	Osage	Washington State University, Michigan	March 29	1876
Fuller, A	490	Lawrence	Douglas	Yale College, New Haven	January 22	1842
Freeland, Chester	453	Blue Rapids	Marshall	University Medical College, New York	March 4	1859
Freeman, J. D	208	Cawker City	Mitchell	College of Physicians and Surgeons, Iowa	February 14	1878
Floyd, T. S	105	Sedgwick	Harvey	Harvard University	March	1861
Few, S. F	163	Leavenworth	Leavenworth	Jefferson Medical College	March 25	1847
Flack, W. C	409	Enterprise	Dickinson	Jefferson Medical College	March 6	1852
Fragnem, H. C	427	Ellsworth	Ellsworth	University of Wooster, Ohio	February 27	1873
Filkin, John N	123	Emporia	Lyon	Chicago Medical College	March	1866
Furgerson, E	457	Atchison	Atchison	Cleveland Medical College	February 28	1858
Fisher, R. H	460	Kennekuk	Atchison	St. Louis Medical College	March 9	1871
Felch, T. A	464	Atchison	Atchison	Detroit Medical College	March 4	1874

ROLL OF MEMBERS—CONTINUED.

Name.	No. of Cert.	Residence.	County.	School.	Date of Graduation.	Year.
Fulton, A. L.	.....	Uniontown	Bourbon	Bellevue Hospital College	March 1	1870
Furley, Chas. C.	2	Wichita	Sedgwick	Medical College of the Pacific, California	March	1860
French, Otis E.	314	Fort Scott	Bourbon	Harvard University	February 7	1842
Gair, James O.	555	Great Bend	Barton	Medical College of Ohio, Cincinnati	February 26	1875
Greenlee, D. R.	590	Wichita	Sedgwick	Pennsylvania University	.....	1852
Graham, S.	588	Coffeyville	Montgomery	Indianapolis Medical College	February 27	1874
Grafton, Bryant	498	Wyandotte	Wyandotte	Medical College of Ohio	March	1868
Goodson, J. H.	92	Sterling	Rice	University of Buffalo	February 24	1862
Gibson, J. L.	375	Kinsley	Edwards	University of Nashville	March 1	1874
Goddard, J. D.	382	Sedgwick	Harvey	Cincinnati College of Medicine and Surgery	February 22	1866
Gish, J. B.	190	Valley Falls	Jefferson	St. Louis Medical College	March 12	1875
Gray, Rufus	176	Iuka	Pratt	Keokuk College of Physicians and Surgeons	February 23	1871
Ganghofer, J.	153	Leavenworth	Leavenworth	Landshut Medical College, Bavaria Humboldt Medical College, St. Louis	September 4 November 5	1838 1868
Gebhart, E. M.	404	Great Bend	Barton	Miami Medical College	February 24	1878
Gephart, J. T.	189	Valley Falls	Jefferson	Rush Medical College	February 2	1870
Gray, G. M.	180	Quindaro	Wyandotte	College of Physicians and Surgeons, Kansas City	March 4	1879
Groger, J. B.	425	Salina	Saline	Cincinnati College of Medicine and Surgery	July 16	1864
Geeseka, O. A.	476	Wellsville	Franklin	Keokuk College of Physicians and Surgeons	February 14	1878
Gibbs, Godfrey	374	Douglass	Butler	Pennsylvania Medical University	.....	1871
George, W. H.	389	Canton	McPherson	Michigan University	March 31	1869
Guibor, C. H.	7	Beloit	Mitchell	Rush Medical College	February 1	1871
Gibboney, S. R.	207	Osborne	Osborne	Jefferson Medical College	March 12	1860
Gardner, J. A.	198	Seapo	Republic	Cleveland Medical College	March 6	1878
Grass, John	228	Independence	Montgomery	Rush Medical College	February	1873
Grubbs, L. Y.	8	Dover	Shawnee	Ohio Medical College	March 1	1871
Gibson, W. B.	15	Topeka	Shawnee	Ohio Medical College	March 1	1860
Giddings, J. M.	252	Scranton	Osage	University of Pennsylvania	March 12	1875
Garr, L. C.	496	Rutland township	Montgomery	Kentucky School of Medicine	March 1	1851
Gough, W. M.	456	Atchison	Atchison	University of Louisville	March.	1848
Ghrist, I. W.	468	Atchison	Atchison	Chicago Medical College	March 14	1871
Garvin, P. C.	264	Frankfort	Marshall	University of Vermont	.....	1862
Goode, G. G.	339	Lenexa	Johnson	University of Virginia	June 25	1867
Gabriel, G. W.	369	Parsons	Labette	Kansas City College of Physicians and Surgeons	March 7	1871
Graham, J. L.	576	Brantford	Washington	Western Reserve College	.....	.....
Haitly, J. D.	109	Newton	Harvey	University of Michigan	March 24	1878

Hill, Wm.	614	Bull City	Osborne	University of Michigan	March 25	1868
Hastings, Geo. P.	570	Minneapolis	Ottawa	Cincinnati Medical College, Ohio	March 1	1875
Hunter, R. R.	556	Buffalo	Wilson	Jefferson Medical College	March 1	1876
Hutchinson, James	539	High Prairie	Leavenworth	Missouri Medical College	March	1876
Hall, E. A.	666	Red Cloud, Neb	Webster	College of Physicians and Surgeons, Iowa	June	1874
Heynauer, N.	649	Leavenworth	Leavenworth	University of Munich, Bavaria	January 24	1873
Holland, A. W	667	Winfield	Cowley	University, Louisville	February 27	1880
Hart, John F.	628	Beloit	Mitchell	Iowa University	February 14	1865
Harris, I. R. O.	595	McPherson	McPherson	Cincinnati College of Medicine and Surgery	June	1873
Hawkins, E. W.	586	McPherson	McPherson	Detroit Medical College	February 29	1876
Hart, C. E.	606	Cottonwood Falls	Chase	University of Iowa	June 25	1863
Hendrickson, W. M.	100	Wichita	Sedgwick	Albany Medical College	May	1863
Hannaford, J. M.	96	Marion Center	Marion	Rush Medical College	February 1	1871
Harris, A. H.	396	Speareville	Ford	Bellevue Hospital Medical College	March 1	1874
Hatton, T. C.	36	Howard	Elk	St. Louis Medical College	March	1878
Havighort, H. S.	384	Allegan	Rice	University of Iowa	March 6	1868
Haskins, M. H.	386	Empire	McPherson	Chicago Medical College	March 16	1875
Hall, Sarah C.	313	Fort Scott	Bourbon	Woman's Medical College of Pennsylvania	March	1870
Hamilton, J. A.	.....	Mound City	Linn	University of New York	March	1848
Hannawalt, H. O.	323	Empire City	Cherokee	Medical College of Ohio	March 16	1873
Haldeman, G. W.	6	Paola	Miami	Jefferson Medical College	March 16	1854
Hayes, C. A.	1,877	Osawatomie	Miami	Rush Medical College	February 24	1877
Hayes, W. H.	.....	Fort Scott	Bourbon	Cleveland Medical College	February 21	1860
Hamill, Thomas	338	Olathe	Johnson	Humboldt Medical College	April 11	1867
Hepler, B. F.	.....	Fort Scott	Bourbon	Cincinnati College of Medicine and Surgery	February 19	1859
Hallowell, G. W.	270	Haddam	Washington	College of Physicians and Surgeons, Iowa	June 18	1878
Hastings, Joseph	255	Palermo	Doniphan	Castleton Medical College of Vermont	November	1857
Holland, D. J	461	Atchison	Atchison	Jefferson Medical College	March 12	1876
Hudson, R. D	466	Atchison	Atchison	University of Pennsylvania	March 14	1879
Humfreville, D. W.	261	Waterville	Marshall	Medical College of Ohio	March 1	1864
Hunter, William	469	Axtell	Marshall	St. Joseph Hospital Medical College	February 28	1879
Haller, James	119	Burlingame	Osage	Western Reserve Medical College, Ohio	February 26	1851
Hartshorn, W. T.	140	Junction City	Davis	Royal College of Surgeons, London	April 13	1855
Hibben, W. W.	124	Emporia	Lyon	Cincinnati College of Physicians and Surgeons	March 1	1854
Hornitzer, Joseph	143	North Topeka	Shawnee	University of Vienna, Austria	December 19	1866
Hopkins, J. A.	135	Parkerville	Morris	Kansas City College of Physicians and Surgeons	March 2	1875
Hunter, C. F.	141	Junction City	Davis	Jefferson Medical College	March 23	1871
Hendricks, H. S.	231	Iola	Allen	Medical College of Ohio	March 2	1860
Hibben, J. B.	16	Topeka	Shawnee	New York University Medical College	July	1877
Hogeboom, G. W.	9	Topeka	Shawnee	Berkshire Medical College, Mass.	November 28	1854
Hartwell, G. M.	455	Jamestown	Cloud	University of Michigan	March 27	1878
Harris, A. J.	205	Osborne City	Osborne	University of New York	March 4	1861
Hayden, William	204	Concordia	Cloud	Castleton Medical College	June 19	1844
Higley, Brewster	444	Smith Center	Smith	Indiana Medical College	February 22	1849

ROLL OF MEMBERS—CONTINUED.

Name.	No. of Cert.	Residence.	County.	School.	Date of Graduation.	Year.
Holmes, C. J.	451	Gaylord	Smith	University of New York	March 5	1868
Hoard, F. DeV.	201	Concordia	Cloud	Georgetown College, D. C.	April 1	1879
Hughes, O. W.	218	Jewell	Jewell	Keokuk College of Physicians and Surgeons	February 13	1877
Hansom, A. Y.	285	Circleville	Jackson	University of New York	March 5	1866
Hallowell, D. J.	55	White Rock	Republic	Keokuk College of Physicians and Surgeons	February 17	1876
Hammond, T. H.	159	Kickapoo	Leavenworth	University of New York	March 4	1859
Harlan, I. G.	474	Walnut	Crawford	Rush Medical College	February 7	1871
Hetzel, Oliver	370	Perry	Jefferson	University of Iowa	May 28	1864
Hixon, Samuel	182	Onaga	Pottawatomie	Keokuk Medical College	June 18	1878
Hodge, John M.	429	Abilene	Dickinson	Sterling Medical College	March 2	1859
Hopkins, G. S.	481	Severance	Doniphan	Keokuk College of Medicine and Surgery	February 13	1876
Hull, F. C.	59	Anthony	Harper	Keokuk College of Medicine and Surgery	February 17	1876
Hill, Malcomb	614	Bull City	Osborne	University of Michigan	March 25	1868
Hawkins, G. M.	676	Dexter	Cowley	University of City of New York	March 7	1856
Jones, S. W.	173	Leavenworth	Leavenworth	Bowdoin College, Maine		1855
Jones, John F.	511	Neosho Falls	Woodson	Louisville Medical College	February 29	1872
Jones, H. O.	282	Hiawatha	Brown	University of Louisville	February	1866
Johnson, B. F.	458	Mt. Pleasant	Atchison	Missouri Medical College	March	1860
Johnson, F. D.	461	Atchison	Atchison	St. Joseph Hospital Medical College	February 28	1879
Jacobs, L. D.	126	Emporia	Lyon	University of Pennsylvania	March 14	1866
Jones, Evan J.	116	Bala	Riley	Ohio Medical College	February 28	1879
Jones, Daniel C.	12	Topeka	Shawnee	Ohio Medical College	March	1866
				Rush Medical College	January 28	1862
Jackson, A. H.	454	Cincinnati	Pawnee, Neb.	College of Physicians and Surgeons, Iowa	June 10	1875
Justice, J. D.	41	Belle Plaine	Sumner	Medical College of St. Louis	March 5	1878
Jones, T. F. C.	165	Kansas City	Wyandotte	St. Louis Medical College	March 1	1856
Jones, E.	495	Dimon	Leavenworth	University of Missouri	June 6	1878
King, W. N.	408	Abilene	Dickinson	Jefferson Medical College	March 9	1858
Kirby, D. E.	73	Linwood	Leavenworth	College of Physicians and Surgeons, Iowa	June 14	1877
Kirkpatrick, H. N.		Anthony	Harper	St. Louis Medical College	March	1878
Kendall, G. C.	414	Abilene	Dickinson	Bellevue Hospital Medical College	March 1	1879
Ketchersid, J. N.	428	Dillon	Dickinson	University Medical College, New York	March	1873
Keiser, J. F.	412	Abilene	Dickinson	Transylvania University	March 1	1850
Knight, Charles S.	213	Kirwin	Phillips	University of Michigan	March 28	1878
Kellenberger, E. K.	492	Ottawa	Franklin	Ohio Medical College	March	1871
Kerr, Wm. M.	248	Garnett	Anderson	Miami Medical College	March 1	1868

Kellogg, H. D.	129	Emporia	Lyon	Rush Medical College	January 25	1867
Keys, L. H.	142	Junction City	Davis	Charity Hospital Medical College, Ohio	February 24	1870
Knapp, Louis		Osawatomie	Miami	Hospital College of Medicine, Louisville	February 22	1877
Knapp, Abraham H.	311	Osawatomie	Miami	Rush Medical College	February 19	1852
Keckly, John J.		Chetopa	Labette	St. Louis Medical College	March 9	1871
Kleiser, J. M.	335	Parsons	Labette	University of City of New York	February 15	1871
King, Robert B.	35	Girard	Crawford	University of Louisiana	March	1868
Kelso, Robert S.	296	Trading Post	Linn	Rush Medical College	January 28	1864
Kennedy, C. B.	362	Parsons	Labette	Jefferson Medical College		1870
Kenney, John E.	324	Pleasant View	Cherokee	Kansas City College of Physicians and Surgeons	March 9	1876
Koons, R. P.	342	Spring Hill	Johnson	Kansas City College of Physicians and Surgeons	March 4	1879
Keller, G. M.	529	Anthony Township	Harper	University of Iowa	March 4	1874
Lee, Jacob C.		Florence	Marion	Hospital College of Medicine, Louisville	February 26	1878
Loose, C. A.	94	Peabody	Marion	University of Pennsylvania	March 13	1873
Love, Jerome L.	287	Whiting	Jackson	St. Louis Medical College	March 7	1877
Lightfoot, Frank	402	Great Bend	Barton	Rush Medical College	February 15	1876
Lillie, J. William	406	Wilson	Ellsworth	University of New York	March 6	1858
Lewis, C. H	43	Cedar Vale	Chautauqua	Yale College	January 10	1867
Lansing, S.		Kingman	Kingman	University of Michigan	March 30	1853
Longmerker, D. F.	197	Scandia	Republic	Jefferson Medical College	March 11	1876
Logan, John P.	234	Ottawa	Franklin	Medical College of Ohio	March 1	1867
Lindsay, T.	314	Garnett	Anderson	Western Reserve College, Ohio	February 22	1854
Lindsay, W. S.	26	Topeka	Shawnee	Keokuk College of Physicians and Surgeons	February 17	1874
Lewis, Eli	21	Topeka	Shawnee	Ohio Medical College	March 2	1847
Longshore, D. K.	19	Topeka	Shawnee	Woman's Medical College of Pennsylvania	March 13	1872
Long, J. G	509	Altoona	Wilson	Pennsylvania Medical College	March 4	1858
Lyman, L. J.	118	Manhattan	Riley	Bellevue Hospital Medical College	March 10	1862
Little, C. F.	115	Manhattan	Riley	Rush Medical College	January 21	1863
Lawrence, J. S.	441	Emporia	Lyon	Cincinnati College of Medicine and Surgery	February	1861
Lively, J. M.	463	Atchison	Atchison	Medical College of Ohio	March	1858
Leemaster, J. L.	284	Robinson	Brown	University of Iowa	February 25	1869
Lewis, W. E.	285	White Cloud	Doniphan	Jefferson Medical College	March 12	1878
Lewis, W. D.	281	Hiawatha	Brown	St. Joseph Hospital College	February 28	1879
Leigh, A.	276	Highland	Doniphan	Rush Medical College	February 17	1874
Leigh, J.	275	Highland	Doniphan	St. Louis University	March 2	1854
Lanphear, A. H.	470	Atchison	Atchison	University of City of New York	March 4	1859
Littleton, L. W.	376	Chetopa	Labette	Keokuk Medical College		1864
Lee, C. P.		Pleasanton	Linn	University of Michigan	March 4	1854
Lee, T. B.	160	Easton	Leavenworth	Nashville Medical College	February 25	1879
Leary, M. F.	541	Gaylord	Smith	University of Louisiana	March 14	1873
Lanne, Henri	534	Topeka	Shawnee	Medical College of Paris, France	October 14	1856
Lawton, G. C.	650	McPherson	McPherson	Bellevue Hospital College	March	1864
Lester, F. W.	618	Ionia	Jewell	Rush Medical College	February 25	1879
Lawrence, T. S.	564	Emporia	Lyon	University of Michigan	March 25	1874

ROLL OF MEMBERS—CONTINUED.

Name.	No. of Cert.	Residence.	County.	School.	Date of Graduation.	Year.
Logie, C. J.	611	Hiawatha	Brown	Detroit Medical College	March 3	1875
Lewis, Minerva	537	Lawrence	Douglas	University of Iowa	March 6	1879
Morse, S. P.	619	Ionia	Jewell	Rush Medical College	February 2	1870
Mesena, J. M.	623	Red Cloud	Webster, Neb.	Keokuk College of Physicians and Surgeons	June 18	1878
McCoy, A. W.	625	Wichita	Sedgwick	Rush Medical College	February 17	1874
McKinney, G. W.	634	Topeka	Shawnee	Collegii Centralis, Tennessee	February 27	1880
May, J. W.	645	Canton	McPherson	Cincinnati College of Medicine and Surgery	February 18	1875
McDonald, W. H.	662	Kansas City	Jackson, Mo.	Glasgow Medical College, Scotland	June 22	1859
May, J. S.	651	Jordan Springs	Reno	Indiana Medical College	February 26	1875
Makempsen, S. C.	654	Seneca	Nemaha	St. Joseph College of Physicians and Surgeons		
Morris, R.	3	Lawrence	Douglas	Rush Medical College	February 20	1851
May, Jacob	594	Topeka	Shawnee	Rush Medical College	February 15	1876
Moffat, J. T.	589	McPherson	McPherson	Rush Medical College	February 3	1869
McHenry, Y. C.	548	Medicine Lodge	Barbour	University, Michigan	April 1	1870
McMurray, John	543	Perry	Jefferson	Missouri Medical College	March 2	1869
Marr, R. B.	568	Toronto	Woodson	St. Louis Medical College	March 12	1875
McKenzie, J. A.	530	Eldorado	Butler	Kentucky School of Medicine	June 28	1879
McCarty, T. L.	533	Dodge City	Ford	Jefferson Medical College	March	1870
Martin, Jeffrey	557	Florence	Marion	Iowa University	March 1	1876
Mackinnon, Argus	544	Atchison	Atchison	Victoria University, Canada	May 7	1864
McClintock, W. D.	538	Mulvane	Sumner	Indiana Medical College	February 28	1873
Miner, Selden	577	Morrill	Brown	University of Michigan	March 27	1867
Miller, C. H.	600	Peabody	Marion	University of Pennsylvania	March 12	1875
Magill, V. T.	582	Caldwell	Sumner	Keokuk College of Physicians and Surgeons	June 20	1876
Murphy, W. W.	385	McPherson	McPherson	Missouri Medical College	March 6	1876
Mulligan, M. M.	378	Empire City	Cherokee	St. Louis Medical College	March 15	1872
Mason, W. F.	376	Dodge City	Ford	Charity Hospital College, Ohio	February 28	1863
Martin, J. F.	407	Effingham	Atchison	Transylvania University, Lexington, Ky.	July 3	1854
Merton, Woodson	518	Virgil	Greenwood	St. Louis Medical College	March	1860
Mead, W. B.	196	Glen Elder	Mitchell	Rush Medical College	June 17	1872
Manly, S. H.	194	Beloit	Mitchell	Iowa College of Physicians and Surgeons	June 12	1873
Mangan, J. M.	203	Concordia	Cloud	University of Pennsylvania	March 14	1837
Marcott, P. L.	446	Concordia	Cloud	Chicago Medical College	March 20	1877
Mottram, C. V.	494	Lawrence	Douglas	Indiana Medical College	February 27	1847
Miller, V. G.	225	Lawrence	Douglas	Ohio Medical College	March	1852
Mitchell, M. R.	24	North Topeka	Shawnee	Ohio Medical College	March 2	1868

Merrill, S. N.	235	Center Township	Franklin	Bowdoin Medical College, Maine	March	1864
McVay, J. G.	225	Elk City	Montgomery	Ohio Medical College	March 1	1869
McCully, W. A.	229	Independence	Montgomery	Ohio Medical College	March	1862
McQuaid, Charles	254	Leroy	Coffey	Chicago Medical College	March 12	1872
May, V. W.	489	Lawrence	Douglas	Jefferson Medical College	March 9	1867
Moore, J. A.	130	Emporia	Lyon	Iowa State University	February 14	1859
Miner, H. C.	144	Topeka	Shawnee	Chicago Medical College	March 16	1875
Miller, George	443	St. Marys	Pottawatomie	University of Pennsylvania	March 15	1878
Mason, W. S.	674	Madison	Greenwood	Rush Medical College	February 24	1880
Miller, H. H.	148	Rossville	Shawnee	University of Pennsylvania	March 12	1872
McCandliss, R. R.	128	Emporia	Lyon	Miami Medical College	February 11	1859
Mayfield, J.	117	Randolph	Riley	Ohio Medical College	March 1	1870
Mathias, W. H.	471	Williamsburg	Franklin	St. Louis Medical College	March 1	1867
Maxson, G. D.	69	Hartford	Lyon	Rush Medical College	January 20	1865
Murphy, H. G.	259	Washington	Washington	College of Physicians and Surgeons, Iowa	February 14	1878
Moore, P. R.	462	Pardee	Atchison	Ohio Medical College	February 27	1877
Morrison, P. J.	.....	Hillsdale	Miami	University of Michigan	March 1	1869
Mendenhall, R. G.	291	LaCygne	Linn	Bellevue Hospital College	March	1872
Muir, J. S.	510	Lindsborg	McPherson	Keokuk College of Physicians and Surgeons	February 17	1876
Milam, T.	184	Wetmore	Nemaha	University of Louisville	March 1	1877
Martin, D. R.	.....	Morton	Cherokee	University of Iowa	.....	.....
Mendenhall, W. S.	171	Winfield	Cowley	Miami Medical College	March 2	1869
McCormick, J. M.	155	Leavenworth	Leavenworth	Philadelphia Medical College	March 2	1848
Manson, W.	503	Burlington	Coffey	Rush Medical College	February 22	1854
Mainhard, E.	167	Wyandotte	Wyandotte	Kansas City College of Physicians and Surgeons	March 4	1879
Morrall, A.	71	Wamego	Pottawatomie	Rush Medical College	January 26	1867
Morse, F. D.	192	Lawrence	Douglas	Rush Medical College	January 26	1867
Myers, E. W.	57	Fairmount	Leavenworth	University of Maryland	March	1862
Miley, Joel	423	Beloit	Mitchell	Keokuk College of Physicians and Surgeons	February 17	1876
Miley, Isaiah	432	Beloit	Mitchell	Keokuk College of Physicians and Surgeons	February 16	1875
Munger, M. E.	507	Winfield	Cowley	Rush Medical College	January 27	1864
Murfin, J. W.	388	Hayesville	Sedgwick	St. Louis Medical College	March 7	1879
Monsell, E. Y.	79	Pendell	Butler	Sterling Medical College	February 26	1869
Miller, Jackson	106	Halstead	Harvey	Western Reserve College	February 4	1869
Miller, T. J.	50	Sunnydale	Sedgwick	Columbus Medical College, Ohio	February 27	1878
McDill, J. B.	45	Clear Water	Sedgwick	Ohio Medical College	March 1	1859
McAdams, C. E.	101	Wichita	Sedgwick	St. Louis Medical College	March 12	1869
McCracken, J.	89	Sterling	Rice	University of Michigan	March 28	1866
McKinney, A. W.	78	Hutchinson	Reno	Cincinnati College of Medicine and Surgery	February 7	1861
Maggard, W. F.	47	Caldwell	Sumner	Republic Medical College, Iowa	February 25	1879
Maggard, J. A.	37	Wellington	Sumner	St. Louis Medical College	March 9	1871
Maggard, I. J.	42	Oxford	Sumner	St. Louis Medical College	March 7	1877
McKisson, J. M.	447	Uniontown	Bourbon	Iowa State University	.....	1855
Morgan, H. W.	424	Wakeeney	Trego	New York University	February 19	1879

ROLL OF MEMBERS—CONTINUED.

Name.	No. of Cert.	Residence.	County.	School.	Date of Graduation.	Year.
Money, J. W.	410	Aroma	Dickinson	Louisville University, Kentucky	March 4	1874
Morrill, Lewis	500	Bull City	Osborne	Vermont Medical College, Woodstock	June	1839
Morgan, John	483	Neosho Falls	Woodson	University of Iowa	February 19	1867
Murphy, D. C.	185	Edwardsville	Wyandotte	Keokuk College of Physicians and Surgeons	February 17	1874
Murray, T. H.	286	Circleville	Jackson	University of Nashville	February	1874
Minnick, E. G.	501	Ellsworth	Ellsworth	Rush Medical College	February 1	1871
McKim, C. H.	475	Bull City	Osborne	University of Michigan	March 27	1878
Noble, W. A.	506	Caldwell	Sumner	Missouri Medical College	March	1878
Northrup, L.	172	Valley Falls	Jefferson	Rush Medical College	February 3	1869
Newton, P. C.	178	White Church	Wyandotte	Jefferson Medical College	March 10	1866
				Pennsylvania Medical College	March 2	1861
Neely, S. F.	5	Leavenworth	Leavenworth	University of Pennsylvania	March 11	1865
Norris, S. G.	238	Ottawa	Franklin	University of Iowa	February 10	1864
Nye, W. W.	280	Hiawatha	Brown	Jefferson Medical College	March 10	1877
Neeley, A. F.	328	Parsons	Labette	Jefferson Medical College	March 9	1870
Newlon, W. S.	363	Oswego	Labette	Iowa State University	February 10	1863
O'Donnell, J. S.	522	Stockton	Rooks	Dartmouth College	November 12	1836
Oliver, W. F.	616	Longton	Elk	Indiana Medical College	February 28	1879
				Department Butler University		
Osborne, W. F.	478	Burlington	Coffey	Rush Medical College	February 15	1860
Pattee, E. L.						
Pornmier, F. J.	621	Emporia	Lyon	"Ecole Imperiale De Medicine," De Mont Pellier, France	July 20	1858
Perkins, A. N.	571	Fredonia	Wilson	Missouri Medical College	March 11	1874
Prentiss, S. B.	617	Lawrence	Douglas	Norwich Medical College, New York	August 5	1844
Phillips, G. W.	609	Howard	Elk	Medical Department, Indiana Medical College, Laporte, Indiana		1845
Paul, L. B.	226	Independence	Montgomery	Department of Butler University		
				Indiana Medical College	February 28	1879
Paramore, J. J.	237	Ottawa	Franklin	Ohio Medical College	March 4	1860
Pindell, J. T.	202	Wellsville	Franklin	University of Maryland	March 4	1865
Picard, G. H.	20	Topeka	Shawnee	Cincinnati College of Medicine and Surgery	June 21	1877
Payne, J. H.	449	Delphos	Ottawa	University of Vermont	June 16	1865
Pratt, B. M.	202	Concordia	Cloud	Jefferson Medical College	March 25	1847
Pierce, J. B.	46	Eureka	Greenwood	St. Louis Medical College		1877
Pickett, Ira N.	98	Stafford	Stafford	Indiana College of Physicians and Surgeons	February 22	1878

Pugh, W. P	392	Cottonwood Falls	Chase	University of Pennsylvania	March 7	1858
Palmer, L. R	183	St. Marys	Pottawatomie	Berkshire Medical College, Massachusetts	November 4	1840
Peasley, B. H	480	Pomona	Franklin	Sterling Medical College	June 30	1865
Peak, Oscar L	61	Iuka	Pratt	Cincinnati College of Medicine and Surgery	February 23	1878
Pettijohn, J. W	187	Hoyt	Jackson	Georgetown Medical College, District Columbia	March 4	1864
Phillips, E. D. F	55	Tonganoxie	Leavenworth	Kansas City College of Physicians and Surgeons	March 9	1876
Pritchard, W. W	419	Cherokee	Crawford	University of Nashville		1868
Putnam, E. C	496	Pawnee Rock	Barton	Louisville Medical College	February 25	1875
Phillips, Samuel	512	Leavenworth	Leavenworth	University of Maryland	March 8	1853
Protherow, E. J	146	Wakarusa	Shawnee	Missouri Medical College	March 5	1879
Phelps, J. H	149	Manhattan	Riley	University of Pennsylvania		1830
				Yale College	March 28	1822
Painter, D. H	131	Council Grove	Morris	Louisville Medical College	February 26	1876
Patterson, A. J	267	Beattie	Marshall	Cleveland Medical College	February 27	1856
Plumb, Henry		Pleasanton	Linn	Yale Medical College	February	1861
Quince, Edward	110	Walton	Harvey	Rush Medical College	February 26	1878
Quince, Edmund	547	Wyandotte Solomon City	Wyandotte Saline	Missouri Medical College	March 5	1879
Reed, R. H	40	Arkansas City	Cowley	University of Iowa	February	1869
Rentz, E. B	104	Wichita	Sedgwick	University of Pennsylvania	March 11	1870
Robeson, W	212	Phillipsburg	Phillips	Medical College of Ohio	March 2	1876
Rose, Archimedes	134	Parkerville	Morris	Jefferson Medical College	March 12	1879
Royal, A. B	286	Americus	Lyon	Rush Medical College	February 21	1877
Roberts, H. S	114	Manhattan	Riley	Jefferson Medical College	March 10	1866
Robinson, J	112	Manhattan	Riley	Rush Medical College	January 25	1867
Redden, J. W	147	Topeka	Shawnee	Jefferson Medical College	March 7	1857
Robinson, W. F	337	Monticello	Johnson	Kansas City College of Physicians and Surgeons	March 4	1872
Robinson, G. W	308	Fontana	Miami	Keokuk Medical College	February 25	1869
Rockhold, C	360	Parsons	Labette	College of Physicians and Surgeons, Iowa	February 17	1874
Reed, Wm	400	Ellsworth	Ellsworth	Charity Hospital Medical College, Cleveland	February 25	1871
Russell, J. H	103	Wichita	Sedgwick	Keokuk College of Physicians and Surgeons	February 22	1860
Rockafellow, J. W	390	Kinsley	Edwards	Jefferson Medical College	March 13	1871
Rothrock, W. P	39	Winfield Township	Cowley	Jefferson Medical College	March 10	1842
Robertson, N. T. P	84	Hutchinson	Reno	Missouri Medical College	March	1859
Rhea, W. M	373	Larned	Pawnee	University of Michigan	March 31	1869
Richards, N. B	66	Wyandotte	Wyandotte	Bellevue Medical College	March 1	1865
Ross, Alex	158	Aron	Sumner	University of Missouri	March 2	1846
Rommell, H		Waterville	Marshall	Missouri Medical College	March 5	1878
Root, J. P	596	Wyandotte	Wyandotte	Berkshire Medical College, Mass	November 20	1850
Ricketts, T. G	550	Winfield	Cowley	University of Pennsylvania	March 12	1877
Ross, D. J	524	Oskaloosa	Jefferson	Kentucky School of Medicine	March 12	1865
Rutledge, G. O	528	Yates Center	Woodson	Chicago Medical College	March 20	1877
Rea, R. M	536	Minneapolis	Ottawa	College of Physicians and Surgeons, New York	February 28	1868
Reeves, L. A	526	Nickerson	Reno	Keokuk Medical College	December 14	1865

ROLL OF MEMBERS—CONTINUED.

Name.	No. of Cert.	Residence.	County.	School.	Date of Graduation.	Year.
Robinson, G. W	615	LeRoy	Coffey	Chicago Medical College	March 4	1879
Rafter, J. A	647	Whiting	Jackson	University College of New York	March 30	1880
Riley, E. M	655	Paola	Miami	Jefferson Medical College	March 13	1880
Reser, S. P	658	Hartford	Lyon	Keokuk College of Physicians and Surgeons	March 2	1880
Ramsey, E. B	636	Topeka	Shawnee	Collegii Centralis, Tennessee	February 27	1880
Russell, E. R	631	Humboldt	Allen	Jefferson Medical College	March 10	1866
Righter, W. H	632	Topeka	Shawnee	Jefferson Medical College	March 12	1879
Stuart, J. H	222	Lawrence	Douglas	Bellevue Hospital College	March	1867
Sieber, Francis	398	Ellsworth	Dickinson	University of Bonn, Prussia	October 17	1855
Slosson, E. B	168	Sabetha	Nemaha	Woman's Medical College of Pennsylvania	March 12	1875
Sloan, M. F	178	Maywood	Wyandotte	Louisville Medical College	February 26	1876
Smyth, Richard	413	Moline	Dickinson	Evansville College, Indiana	February 20	1852
Smith, C. P	422	Charlestown	Greenwood	Rush Medical College	January 17	1872
Speck, Fred	166	Wyandotte	Wyandotte	Franklin Medical College	March 6	1847
Sprague, Chas	417	Leavenworth	Leavenworth	Western Reserve College	August 10	1848
Stane, H. M	418	Halstead	Harvey	Missouri Medical College	March 5	1878
Switzer, E. R	423	Salina	Saline	University of McGill College, Canada	May 3	1865
Shoyer, C. C	157	Leavenworth	Leavenworth	Jefferson Medical College	March 9	1850
Seller, T. P	499	Brookville	Saline	Rush Medical College	November 22	1854
Scott, J. G	54	White Rock	Republic	College of Physicians and Surgeons, Iowa	June 16	1875
Scott, J. T	288	Holton	Jackson	Rush Medical College	February 2	1870
Saur, L.	436	Wichita	Sedgwick	Georgetown Medical College, District of Columbia	March 15	1855
Stephens, Nannie A	102	Wichita	Sedgwick	Woman's Hospital College, Illinois	February 28	1878
Speirs, W. W	88	Raymond	Rice	University of Michigan	March 27	1867
Smolt, C. F	81	Nickerson	Reno	Rush Medical College	February 26	1878
Seaton, J. H	380	Newton	Harvey	Louisville Medical College	March	1866
Schoffield, N. M	52	Maple City	Cowley	Jefferson Medical College	March 6	1839
Scott, J. W	83	Hutchinson	Reno	University of Maryland	March	1866
Steel, Nathaniel	156	Beloit	Mitchell	Iowa Medical College, Keokuk	February 20	1856
Sidlinger, S.	85	Hutchinson	Reno	University of Michigan, Ann Arbor	March 25	1874
Slagle, B. W	217	Jewell Center	Jewell	University of Pennsylvania	March 12	.....
Sackridge, D. L	211	Stockton	Rooks	Kentucky School of Medicine	March	1875
Saunders, L	216	Jewell Center	Jewell	Louisville Medical College	February 26	1876
Swan, S. R	253	Burlington	Coffey	Missouri Medical College	March 8	1879
Stake, M. S	227	Independence	Montgomery	Rush Medical College	January 25	1865
Still, J. M	493	Eudora	Douglas	Rush Medical College	January 27	1864

Springfield, F. M.	23	Topeka	Shawnee	Georgetown Medical College, District of Columbia	March 10	1870
Sheldon, S. E.	14	Topeka	Shawnee	Western Reserve College	February	1860
Sharpless, J. M.	230	Havana	Montgomery	College of Physicians and Surgeons, Iowa	February 25	1879
Schellack, A.	223	Eudora	Douglas	Kansas City College of Physicians and Surgeons	March 6	1877
Stormont, D. W.	4	Topeka	Shawnee	University of Pennsylvania	March 15	1860
Schenck, W. L.	122	Osage	Osage	Dartmouth College, New Hampshire	November 8	1848
Snyder, Alvin	268	Seneca	Nemaha	Missouri Medical College	March 4	1873
Sheldon, J. J.	265	Beattie	Marshall	Western Reserve College, Ohio	February	1862
Sexton, A. G.	257	Clifton	Washington	Rush Medical College	February 26	1878
Scaman, G. A.	262	Marysville	Marshall	Keokuk College of Physicians and Surgeons	June 18	1878
Street, Wm.	322	Baxter Springs	Cherokee	Jefferson Medical College	March 11	1875
Smith, A. H.	351	New Pittsburg	Crawford	University of New York	March	1853
Sellers, L. R.	299	Prescott	Linn	Indiana Medical College	February 28	1877
Scholl, G. W.		Girard	Crawford	Missouri Medical College	February	1858
Sawyer, C. J.		Spring Hill	Johnson	College of Physicians and Surgeons, Indiana	February 27	1877
Seaman, W. L.	188	Wyandotte	Wyandotte	Chicago Medical College	March 16	1875
Seymour, E. W.	139	Junction City	Davis	Jefferson Medical College	March 4	1858
Sutton, G. W.	652	Hartford	Lyon	Cincinnati College of Medicine and Surgery	June 21	1867
Sampson, G. P.	660	Leavenworth	Leavenworth	Miami Medical College	March 1	1880
Snyder, J. E.	499	Osborne City	Osborne	Bellevue Hospital College	March 1	1868
Shoemaker, Milton	604	Larned	Pawnee	Rush Medical College	February 19	1873
Shaffer, W. B.	607	Ottumwa	Coffey	Miami Medical College	February 23	1856
Sherrick, N.	552	Kansas City	Wyandotte	University of Pennsylvania	March 12	1877
Smeltzer, G. H.	554	Caldwell	Sumner	Medical College of Ohio	February 28	1879
Seip, W. H.	542	Atchison	Atchison	Jefferson Medical College	March	1859
Steel, A. R.	560	Logan	Phillips	American Health College, Ohio	November 27	1876
Sheppard, J. T.	559	Arkansas City	Cowley	St. Louis Medical College	March 2	1859
Swain, G. M., jr.	558	Dorrance	Russell	University of Michigan	June 28	1878
Searl, O. F.	523	Solomon	Dickinson	Berkshire Medical College, Mass	November 8	1865
Seamans, T. B.	578	Baxter Springs	Cherokee	Jefferson Medical College	March 12	1873
Smith, W. W.	592	Lenora	Norton	University of Michigan	March 25	1874
Sipple, C. B.	593	Peru	Chautauqua	St. Louis Medical College	March 12	1875
Sherrick, J. D.	526	Newton	Harvey	University of Michigan	June	1877
Scott, D.	633	Lawrence	Douglass	Keokuk College of Physicians and Surgeons	February 17	1873
				Chicago Medical College	May 1	1873
Thompson, F.	531	Baldwin City	Douglas	Western Reserve College	February 26	1858
Thomas, R. I.	597	Emporia	Lyon	Rock Island Medical School, Miss	February 22	1849
Thompson, T. A	583	Grantville	Jefferson	Ohio Medical College	March 1	1875
Taylor, N. J.	535	Williamsport	Shawnee	Pennsylvania Medical University	January 24	1865
Tenney, A. P.	465	Atchison	Atchison	Harvard Medical University	March 3	1859
Tuggle, R. T.	472	Parsons	Labette	Kentucky School of Medicine	June 26	1879
Tedford, J. C.	297	Mound City	Linn	St. Louis Medical College	March	1859
Taylor, C. E. S.	344	Arcadia	Crawford	University of Toronto, Canada	June	1874
Taylor, Wilson	664	Robertson	Brown	Columbus Medical College, Ohio		1880

ROLL OF MEMBERS—CONCLUDED.

Name.	*No. of Cert.*	*Residence.*	*County.*	*School.*	*Date of Graduation.*	*Year.*
Terwilliger, L. L.	641	Delaware City	Leavenworth	St. Joseph Hospital College	February 26	1880
Taylor, S. W.	505	Cherryvale	Montgomery	Transylvania University	August 25	1851
Tenney, H. H.	371	Irving	Marshall	Dartmouth Medical College	November 7	1855
Thayer, B. F.	175	Wamego	Pottawatomie	St. Louis Medical College	February 27	1863
Thomas, D. W.	154	Leavenworth	Leavenworth	University of Maryland	March 20	1849
Thomas, M. S.	152	Leavenworth	Leavenworth	University of Maryland	March 8	1853
Turner, W. A.		Powhattan	Brown	Missouri Medical College	March 6	1872
Thayer, James W.	113	Ogden	Riley	Iowa College of Physicians and Surgeons	February 25	1879
Trego, A.	232	Salem Township	Allen	Jefferson Medical College	March 20	1861
Thornburg, J. R.	239	Princeton	Franklin	Keokuk Medical College	February 14	1878
Tefft, H. R.	10	Topeka	Shawnee	Bellevue Hospital College	March 1	1873
Tefft, E	11	Topeka	Shawnee	Medical College, City of New York	June 30	1877
Trueworthy, J. W.	127	Emporia	Lyon	Rush Medical College	January 25	1865
Taylor, C.	199	Belleville	Republic	Iowa Medical College	February 26	1857
Terry, N. F.	87	Lyons	Rice	Miami Medical College	March 4	1876
Truehart, P. P.	90	Sterling	Rice	Hospital College of Medicine, Kentucky	February	1876
Tuxell, J. F.		Larned	Pawnee	Bellevue Hospital College	March 1	1870
Tomlinson, S.	546	Richland Township	Cowley	Indiana Medical College	February 28	1870
Underwood, T. E.	426	Salina	Saline	University of Pennsylvania	March 14	1871
VanDuyn, A. C.	161	Leavenworth	Leavenworth	University of Michigan	March 26	1862
VanEman, W. J.	70	Tonganoxie	Leavenworth	Medical College of Ohio	March 1	1875
VanEaton, F. H.	56	Salina	Saline	Missouri Medical College	February 7	1858
Vau Zandt, E.	169	Hutchinson	Reno	Keokuk College of Physicians and Surgeons	February 14	1878
Van Kunkle, M. W.	567	Echo	Douglas	Bellevue Hospital College	March 1	1865
Venard, J N.	638	Shiloh	Ness	Rush Medical College	February 19	1873
Venard, W. N.	249	Burlington	Coffey	Columbus College, Ohio	February 7	1878
Vawler, Jamison	612	Arkansas City	Cowley	University of Louisville	February 28	1878
Wetmore, R. V.	242	Coyville	Wilson	Rush Medical College	January 24	1866
Welsh, D. S.	246	Lane	Franklin	Keokuk College of Physicians and Surgeons	February 18	1873
Welles, Nancy S	13	Topeka	Shawnee	Woman's Medical College of Pennsylvania	March	1868
Wright, J. J.	123	Emporia	Lyon	Medical College of Ohio	March 1	1854
Ward, M. B.	111	Manhattan	Riley	Keokuk College of Physicians and Surgeons	February 25	1879
White, L. R.	200	Belleville	Republic	Harvard Medical College	June 26	1878
Winbigler, C. W.	256	Greenleaf	Washington	Bellevue Hospital College	March 1	1871
Waldon, E. H	258	Washington	Washington	Sterling Medical College	February 28	1865
				Bellevue Hospital College	March 1	1866
Woodward, B.	327	Olathe	Johnson	Rush Medical College	February 18	1857

Woodson, E. W.	336	Parsons	Labette	University of Pennsylvania	April 1	1854
Wilson, Allen		Mulberry Grove	Crawford	Missouri Medical College	March 5	1879
Williams, Lee	365	Oswego	Labette	Kentucky School of Medicine	June 7	1877
Wier, J. W.	356	Oswego	Labette	Medical College of Albany	March	1860
Watkins, W. W	346	New Pittsburg	Crawford	St. Louis Medical College	March	1872
Walker, Delos	514	Greeley	Anderson	University of Michigan	March 30	1864
Wever, J. L.	513	Leavenworth	Leavenworth	Albany Medical College, New York	January 27	1852
Wassam, A. M	27	Eureka	Greenwood	Ohio Medical College	March	1873
Walsh, R.	393	Cottonwood Falls	Chase	Bellevue Hospital College	March	1871
Wakefield, C. A	31	Eureka	Greenwood	St. Louis Medical College	March 13	1869
Watson, F. W	51	Eureka	Greenwood	Rush Medical College		1866
Wilson, A. H.	48	Douglas	Butler	Miami Medical College	March	1870
Wolf, J. J	33	Winfield	Cowley	University of Iowa	June 25	1863
Wright, W. T	34	Winfield	Cowley	St. Louis Medical College	March 22	1872
Wright, W. O.	29					
Warring, J. W.	65	Linwood	Leavenworth	Missouri College of Medicine	March 14	1873
Wagstaff, Martha P.T.	415	Hiawatha	Brown	Woman's Hospital College of Chicago	March 2	1875
Warner, H. A	191	Meridan	Jefferson	University of Wooster, Ohio	February 27	1873
Watson, J. E.	643	New Santa Fé	Jackson	Kansas City College of Physicians and Surgeons		1871
Whistler, S. M.	656	Wilson	Ellsworth	University of Pennsylvania	March 14	1866
Wilbur, S. S.	664	Wichita	Sedgwick	University of Vermont	June 19	1866
Webb, R. D.	177	Nortonville	Jefferson	Sterling Medical College	March	1865
Weaver, Myron A	399	Ellsworth	Ellsworth	University of Pennsylvania	March 12	1877
Wilson, C. M.	433	Cawker	Mitchell	Bellevue Hospital College	March	1875
Wiseman, W. F	250	Burlington	Coffey	Kentucky School of Medicine	March	1866
Wiley, P. M.	484	Fredonia	Wilson	Sterling Medical College	February 23	1877
Woodward, H. P	72	Wamego	Pottawatomie	University of Michigan	April	1852
Wood, W. B.	186	Springdale	Leavenworth	Missouri Medical College	March 4	1875
Wood, R. L.	193	Stranger Creek	Leavenworth	Louisville Medical College	March 1	1846
Wood, G. B.	179	Wyandotte	Wyandotte	University of Pennsylvania	July 10	1857
Wright, G. F.	401	Ellsworth	Ellsworth	Miami Medical College	March 4	1873
Williams, Miss A.	221	Lawrence	Douglas	University of Michigan	March 26	1879
Whitford, J. H.	247	Garnett	Anderson	Sterling Medical College	March	1858
Willets, J. R.	241	Fredonia	Wilson	Indiana Central Medical College	March 1	1851
Warring, W. C.	95	Marion	Marion	Louisville Medical College	February 27	1874
Wesson, David	620	Iola Township	Cherokee	Keokuk Medical College	March	1866
Warner, W. A.	473	Girard	Crawford	Willoughby Medical College, Ohio	March	1844
Wells, J. W.	562	Loughton	Elk	Cleveland Medical College, Ohio	February	1872
Wells, L. M	561	Quito	Butler	Louisville Medical College, Kentucky	February 15	1875
Wells, W. H.	629	Coffeyville	Montgomery	Georgetown University, District of Columbia	March 11	1868
Wells, C. S.	635	Star Valley	Cherokee	Rush Medical College	February 21	1877
Young, A. G.	639	Jewell Center	Jewell	Jefferson Medical College		1874

Total number of graduates to whom certificates have been issued, 663.

The following is a summary of the number who have graduated from the various medical institutions above named.

Albany Medical College	2
American College	1
Berlin College (Prussia)	1
Berkshire College (Massachusetts)	4
Bowdoin College (Maine)	2
Bellevue Hospital Medical College	28
Butler University of Indiana	2
Central College (Tennessee)	2
Charity Hospital College (Iowa)	3
College of Physicians and Surgeons (Indiana)	3
Chicago Medical College	13
College of Medicine and Surgery (Lower Canada)	2
Castleton Medical College (Vermont)	2
College of Physicians and Surgeons (Iowa)	19
Cleveland Medical College	9
Cincinnati College of Medicine and Surgery	17
College of Physicians and Surgeons (New York)	4
Columbus Medical College (Ohio)	3
Dartmouth College	6
Detroit Medical College	3
Evansville Medical College (Indiana)	2
Franklin Medical College	2
Geneva Medical College (New York)	1
Georgetown Medical College (D. C.)	1
Georgetown University	2
Georgetown College of Physicians and Surgeons	5
Glasgow Medical College (Scotland)	1
Humboldt Medical College	2
Harvard University	1
Harvard Medical College	6
Hospital College of Medicine (Kentucky)	3
Indianapolis Medical College	1
Imperial Medical College (France)	2
Indiana Medical College	9
Jefferson Medical College (Pennsylvania)	44
Keokuk College of Physicians and Surgeons	29
Keokuk Medical College	19
Kentucky School of Medicine	8
Kansas City College of Physicians and Surgeons	15
Long Island Hospital College	3
Louisville Medical College	19
Montpelier Medical College	1
Missouri Medical College	23
Miami Medical College	11
Medical College of the Pacific	1
Medical College of Alabama	1
Norwich Medical College	1
Nashville Medical College	1
Ohio Medical College	35
Philadelphia Medical College	2
Rush Medical College	59
Royal College of Surgeons (London)	1
Rock Island Medical College	1

Republic Medical College (Iowa)	1
St. Louis Medical College	34
Sterling Medical College	11
Syracuse Medical College (New York)	1
St. Joseph Medical College	8
Toronto University (Canada)	2
Toland Medical College (Cal.)	1
Transylvania Medical College (Kentucky)	3
University of McGill (Canada)	1
" " Victoria (Canada)	1
" " Iowa	19
" " Munich (Bavaria)	1
" " Missouri	3
" " Buffalo	2
" " Louisiana	2
" " Maryland	7
" " St. Louis	1
" " Vermont	8
" " New York	16
" " Vienna	1
" " Nashville	4
" " Wooster (Ohio)	2
" " Pennsylvania	31
" " Michigan	29
" " Louisville	13
" " Bonn (Prussia)	1
Woman's Medical College (Pennsylvania)	3
" " " (Chicago)	3
Woman's Hospital College	1
Western Reserve Medical College (Ohio)	10
Willoughby Medical College (Ohio)	1
Yale College	4
Yandstat Medical College (Bavaria)	1

You will perceive by the above that a respectable percentage of the graduates in the State are from respectable schools of medicine. In some cases the good character and standing of the applicant in the profession was considered an equivalent for the lack of character of the school, and certificates were issued by the board; but when the diploma presented was issued by a respectable school, the law gave the board no discretion, consequently moral character could not be considered.

We find that a large majority of the medical graduates living in the State are men of considerable experience; only one hundred and seventy-six have graduated within five years. One hundred and forty are graduates of over five and less than ten years; one hundred and twenty-seven of over ten and less than fifteen years; forty-seven of over fifteen and less than twenty years; sixty of over twenty and less than twenty-five years; forty of over twenty-five and less than thirty years; twenty-eight of over thirty and less than thirty-five years; eight of over thirty-five and less than forty years, and one of forty, two forty-

one, one forty-two, one of forty-three, one of forty-five, one of fifty, and one of fifty-eight years.

The following is a list of those physicians who have been examined, found qualified, and received the certificate provided by section 3 of the act:

SUPPLEMENTAL ROLL OF MEMBERS.

Name.	*No. of Cert.*	*Residence.*	*County.*
Armstrong, E.	24	Glen Elder	Mitchell.
Ashley, W. H.	82	Michigan Valley	Osage.
Ashley, A. H.	.....	Michigan Valley	Osage.
Allen, W. H.	111	Little Walnut	Butler.
Alexander, J. A.	.....	Lenexa	Johnson.
Allen, E. B.	(9)5yr	Wichita	Sedgwick.
Britean, A. W.	9	Oberlin	Decatur.
Bates, D. M.	5	Winchester	Jefferson.
Batsell, J. C.	84	Monrovia	Atchison.
Beeler, Daniel	.....	London	Sumner.
Black, Geo.	102	Winfield	Cowley.
Button, J. B.	92	Mapleton	Bourbon.
Burke, J. L.	118	Windsor	Ottawa.
Clark, Lewis	101	Columbus	Cherokee.
Cotter, J. R.	124	Topeka	Shawnee.
Corwin, L. E.	122	Emporia	Lyon.
Coffin, A. V.	109	Leroy	Coffey.
Campbell, C. W.	74	Kingston	Labette.
Carpenter, John	.....	Stanley	Johnson.
Cash, B. G.	55	Troy	Doniphan.
Charles, J. W.	.....	Marion Center	Marion.
Chase, Thomas	85	Shawnee	Johnson.
Cooper, J. S.	18	Eureka	Greenwood.
Couch, J. W.	.....	Prescott	Bourbon.
Craig, T. L.	.....	Guilford	Wilson.
Crawford, J. G.	.....	Reedville	Marshall.
Curtis, J. B.	31	Lindsborg	McPherson.
Culver, B. G.	86	Humboldt	Allen.
Day, S. A.	68	Osawatomie	Miami.
Day, L. O.	.....	McPherson	McPherson.
Demass, M.	95	Iola	Allen.
Dodd, T. F. C.	.....	Altoona	Wilson.
Donahoe, L. B.	79	Kansas City	——
Duval, C. G.	.....	Climax	Greenwood.
Duckworth, A.	123	Louisville	Pottawatomie.
Divelbliss,——	127	LaCygne	Linn.
Doane, A. W.	3	Monmouth	Crawford.
Davis, E. P.	.....	Hiattsville	Bourbon.
Edwards, A. G.	.....	Marysville	Marshall.
Edson, G. M.	108	Smith Center	Smith.
Fenn, E. B.	70	Lyndon	Osage.
Ferguson, J. W.	83	Gatesburg	Neosho.
Foster, M. L.	65	Ottawa	Franklin.
Frazier, T. C.	.....	Coffeyville	Montgomery.
Fuller, B. A.	61	Cato	Crawford.
Fuller, Albert	50	Vermillion	Marshall.
Foster, H. A.	103	Ottawa	Franklin.
Fabrique, A. H.	10	Wichita	Sedgwick.
Gray, D. S.	14	Cloverdale	Chautauqua.
Griffith, S. F.	121	Kinsley	Edwards.
Gillehan, C.	113	Iola	Allen.
Gosselk, J. W.	.....	Paola	Miami.
Hammond, W. G.	84	Highland	Doniphan.
Hamilton, J. W.	25	Abilene	Dickinson.

SUPPLEMENTAL ROLL OF MEMBERS—CONTINUED.

Name.	*No. of Cert.*	*Residence.*	*County.*
Harriman, L.		Sterling	Rice.
Hastings, Herbert		Olathe	Johnson.
Hawley, Joseph E.	22	Burr Oak	Jewell.
Harris, W. K	95	Gardner	Sedgwick.
Heath, N. S.		Muscotah	Atchison.
Hollingsworth, F. J.	11	Conner Station	Wyandotte.
Hoover, W. D.	77	Paola	Miami.
Hull, W.		Buffalo	Wilson.
Horne, J. T.	117		
Johnson, Frank	12	Elmdale	Chase.
Jones, H. G.	104		
Jeffryes, W. F.	106	Ellinwood	Barton.
Jenks, J.	125	Ottumwa	Coffey.
Johnson, H	126	Paola	Miami.
Jones, J. M.		Topeka	Shawnee.
Lamb, Watson	20	Sterling	Rice.
Laney, R.		Perry	Jefferson.
Lewis, P. M.	71	Lecompton	Douglas.
Lewis, Reading		Newton	Harvey.
Lindsay, J. O.			Doniphan.
Lucas, S.	15	Howard	Elk.
Lisle, Geo.	110	Chetopa	Labette.
Lane, J. A		Bramin Hill	Wyandotte.
Markman, A. G		New Albany	Wilson.
Masteman, B. F	59	Independence	Montgomery.
Miller, H. J	78	Nickerson	Reno.
Moore, I.	57	Wyandotte	Wyandotte.
Moore, W. E	94	Hamlin	Brown.
Musgrove, R. C.	19	Grenola	Elk.
McCombs, J. B.		Independence	Montgomery.
McDonald, W	16	Walley	Elk.
McDowell, C. C.		Crestline	Cherokee.
McKinley, C. G.	64	Olathe	Johnson.
McKown, D. H.	32	Ellinwood	Barton.
McMillan, A. G		Williamsburg	Franklin.
McMahan, J.	26	Detroit	Dickinson.
Moore, John	115	Butler	Washington.
Melvin, T. S.	107	Glasco	Cloud.
Morrow, G. M.	1	Topeka	Shawnee.
Mosteller, Geo.	13	Walnut	Crawford.
Olney, F. S.		Elk Falls	Elk.
O'Neal, M. A	69	Black Jack	Douglas.
Plummer, L. W	44	Muscotah	Atchison.
Pattee, E. Z.		Manhattan	Riley.
Randolph, A. G	52	Palmer	Washington.
Reeder, Wm.	56	Troy	Doniphan.
Ripperton, J. C.		Belle Plaine	Sumner.
Ross, W. J		Rubens	Jewell.
Robinson, W. M		Independence	Montgomery.
Ronk, W. R.	5	Reading	Lyon.
Russell, W. H.	62	Columbus	Cherokee.
Raub, A. A.	116	Cawker City	
Rodgers, J. W		Marion Center	Marion.
Randolph, W. J		May Day	Riley.
Sawyer, J. H.	46	Doniphan	Doniphan.
Shelton, W. A.	36	McPherson	McPherson.
Shelley, S. T.	48	Burrton	Harvey.
Shirley, E. L.	41	Augusta	Butler.
Sheppard, J. T.		Arkansas City	Cowley.
Southerd, R. B.	96	Elk City	Montgomery.
Spratt, W. A. H	76	Monticello	Johnson.
Stephens, J. D.	27	Peru	Chautauqua.
Sterns, E. N.	34	Brookville	Saline.
Stevens, C. C	49	Eden	Atchison.
Still, J. J.	3	Arvonia	Osage.
Stone, G. L.	105	Iowa Point	Doniphan.
Taylor, J. M	81	Strawn	Coffey.

SUPPLEMENTAL ROLL OF MEMBERS—CONCLUDED.

Name.	*No. of Cert.*	*Residence.*	*County.*
Tallman, T. G	88	Coffeyville	Montgomery.
Taylor, A. M	.....	Independence	Montgomery.
Tenney, Mrs. R. S	79	Independence	Montgomery.
Thrall, M. A	75	Independence	Montgomery.
Thompson, J. R	8	Ingalls	Lincoln.
Trower, S. B	7	Winchester	Jefferson.
Tuesdel, R. H	97	Kirwin	Phillips.
Tucker, H. C	29	El Paso	Sedgwick.
Tucker, E. J	21	Salem	Jewell.
Trainor, K. A	120	Ionia	Jewell.
Taylor, W	119	Ionia	Jewell.
Unvohes, J. H	17	Eureka	Greenwood.
Wagner, George P	39	Dexter	Cowley.
Waterman, W. H	28	Wilson	Ellsworth.
Wallace, J. W	90	Arcadia	Crawford.
Wells, L. N	23	Gaylord	Smith.
Welsh, J. M	45	Doniphan	Doniphan.
Weibley, J. C	91	Opolis	Crawford.
Wellman, P. F	86	Lyndon	Osage.
Whetstone, E. G	93	Greenleaf	Washington.
Williamson, G. W	.....	St. Marys	Pottawatomie.
Wood, L. W	4	White Church	Wyandotte.
Wooding, W. W	87	Independence	Montgomery.
Wright, J. M	38	Tisdale	Cowley.
Word, J. D	112	Waveland	Shawnee.
Walters, William	114	Paola	Miami.
Wright, T. A	4	Americus	Lyon.

Of this class there are 148. Many of the gentlemen passed very creditable examinations, which were not in any case severe, but sufficiently strict to test the qualifications of the applicants. The board examined in all two hundred and sixty-seven applicants, of which one hundred and nineteen were rejected, many of whom we found ignorant of the first principles of medicine. Thirty-nine persons who applied for certificates, and, after notification to appear before the board and complete their application or be examined in conformity with the provisions of the law, were rejected because of failure to comply, but in no case until every resource at the command of the board had been exhausted, and in most cases action was not taken until after the first day of April, after which time the law provided that no examinations shall be made. Thus one hundred and fifty-eight applicants have been refused certificates since the organization of the board. In two or three instances parties rejected have attended medical schools during the past winter, and have since been licensed by the board.

In no case has the board considered the application of any party belonging to either of the other schools of medicine recognized by the act.

On the pages following are the names of persons rejected.

REJECTED APPLICATIONS FOR MEMBERSHIP.

Name.	*Residence.*	*County.*
Allen, A. A		Anderson.
Adair, T. E	Elixir	Chase.
Abbey, O	Ledine	Crawford.
Addington, W	Dogwood	Crawford.
Allen, Mrs. Allie	Winfield	Cowley.
Axilson, A	Randolph	Riley.
Anderson, W. H	Beulah	Crawford.
Andrews, A. A	Boston	Chautauqua.
Brown, W	Buffalo	Reno.
Barrett, J. F	Fredonia	Wilson.
Black, Clark	Caldwell	Sumner.
Bolens, W. F	Oakwood	Linn.
Boon, W. A	Salina	Saline.
Burke, Jno. L		Saline.
Brown, H. A	Earlton	Neosho.
Boyes, S. G	Delphi	Osborne.
Brown, J. M	Netherland	Reno.
Brace, M. R	Augusta	Butler.
Brome, J. L	May Day	Riley.
Bubbon, C. W	North Cedar	Jackson.
Bassett, A	Eldorado	Butler.
Benepe, L. N	Douglass	Butler.
Cline J	Howard City	Elk.
Collins, Lewis	Buttsville	Cloud.
Chapman, S. B	Wilson	Ellsworth.
Cline, W. B	Howard	Elk.
Christ, Geo. S	Jewell Center	Jewell.
Cope, Benj	Middletown	Wilson.
Connell, W. R. S	Hepler	Crawford.
Cantwell, A. R	Winchester	Jefferson.
Comstock, D	Kansas City	Wyandotte.
Cusby, E	Minneapolis	Ottawa.
Clark, W. S	Osage Mission	Neosho.
Dobson, O. M	Ellsworth	Barton.
Daniels, W. L	Pawnee Township	Barton.
Dempsey, D. W	Bennington	Ottawa.
Delatiner, H. L	Carbon	Butler.
Davis, I. J	Florence	Marion.
Daugherty, P	Junction City	Davis.
Dayton, Celia Ann	Spring Hill	Johnson.
Dutton, S. W	Eldorado	Butler.
Dunn, J. C	Minneapolis	Ottawa.
Dallas, W. F	Cadmus	Linn.
Davis, J. L	Messer	Cherokee.
Davis, T. W	Medicine Lodge	Barbour.
Edwards, G. P	Ionia	Jewell.
Engle, W	Blooming Grove	Linn.
Edmiston, A	New Albany	Wilson.
Easling, P. W	Burrton	Harvey.
Foote, L. A	Bennington	Ottawa.
Floyd, Wm	Peru	Chautauqua.
Fletcher, A. J	Caldwell	Sumner.
Frisbie, P. M	Plainville	Rooks.
Glover, G. W	Marion Center	Marion.
Gile, C. B	Venango	Ellsworth.
Hollidan, S. W	Homestead	Chase.
Hooser, H. G	Independence	Montgomery.
Holman, Jno. T	Junehill	Bourbon.
Holland, C. G	Memphis	Bourbon.
Headrick, John	Winfield	Cowley.
Hulse, T. B	Lyons	Rice.
Holland, A. W	Turnerhill	Cowley.
Husdof, John	Lebanon	Smith.
Hamlin, D. W	West Kansas City	Wyandotte.
Hausneck, F. A	Belfield	Rush.
Humphrey, J. T	LaCygne	Linn.
Hatch, Chester W	El Dorado	Butler.
Jones, F. A	Eureka	Greenwood.

REJECTED APPLICATIONS FOR MEMBERSHIP—CONTINUED.

Name.	*Residence.*	*County.*
Jones, Frank M	Cottonwood	Chase.
Jones, H. G		Cherokee.
Knott, W. P	Douglass	Butler.
Kennedy, Max	Junction City	Davis.
Keller, Wm.	Detroit	Dickinson.
Knickerbocker, George	Flora	Cowley.
Kirby, L. B	Chetopa	Labette.
Kohl, H. B	Victoria	Ellis.
Kustler, R	Tiblow	Wyandotte.
Lasse, D. M	Wichita	Sedgwick.
Lewis, A	Oberlin	Dickinson.
Laughlin, D. L	Clyde	Cloud.
Lythe, W. D	Lazette	Cowley.
Lavenburg, J	Hodgeman Center	Hodgeman.
Lucas, D. P	Ripon	Labette.
Lambert, Geo. B	Berlin	Bourbon.
Lightfoot, P	Memphis	Bourbon.
Landon, J. S. C	Braman Hill	Wyandotte.
Lee, W. R	Winchester	Jefferson.
Lafayette, J. B	Aubrey	Johnson.
Lloyd, C. H	Harper	Harper.
Leabo, J. R	Mt. Vernon	Chautauqua.
Montgomery, C. J	Lamar	Ottawa.
Moore, D. B	Jamestown	Cloud.
Morrow, D. F	Longton	Elk.
McCartney, A	Neodesha	Wilson.
Morris, W. W	Eureka	Greenwood.
Malone, D. M	Hillsdale	Miami.
Markham, W. W	Hill Creek	Bourbon.
McClellan, A. J	Baxter Springs	Cherokee.
Matthews, P. F	Buffalo	Wilson.
Myers, S	Pittsburg	Mitchell.
McNalley, N	Carbondale	Osage.
McHenry, James	Minneapolis	Ottawa.
Moore, J	Wyandotte	Wyandotte.
Miller, N. M	Mound Valley	Labette.
Monahan, J. A	Columbus	Cherokee.
Northrup, D. R	Valley Falls	Jefferson.
Neal, J. W	Wamego	Pottawatomie.
Nugent, J. S	Haven	Bourbon.
Osborne, J. R	Bennington	Ottawa.
Pulis, Mrs. D	Larned	Pawnee.
Perdue, H	Osborne City	Osborne.
Puderbaugh, C. R	Osawkee	Jefferson.
Page, Henry	Osawkee	Jefferson.
Pickard, N. C	Hodgeman	Hodgeman.
Rogers, P. W	Williamsburg	Franklin.
Richardson, E. E	Riverview	Rice.
Richardson, ——	Lyons	Rice.
Reynolds, E	Highland	Doniphan.
Ransopker, S. M	Cloud	Cloud.
Retzel, F	Rubens	Jewell.
Rull, P. G	Labette	Cowley.
Rick, L	Marysville	Marshall.
Rhea, Robert	Sabetha	Nemaha.
Redman, Geo. W	Oak Mills	Atchison.
Splaun, R. C	Trading Post	Linn.
Symmes, W. G	Caldwell	Chautauqua.
Sowers, G. H	Ottawa	Franklin.
Steward, Lafayette	Eureka	Greenwood.
Sutton, E	Judson	Smith.
Stackle, F. A	Ellinwood	Barton.
Strickler, J. F	Delphos	Ottawa.
Steinberger, S. A	Erie	Neosho.
Solomon, H. M	Parsons	Labette.
Shipley, J. T	Beloit	Mitchell.
Stager, R. F	Louisburg	Miami.
Swauk, S. W	Garnett	Anderson.

REJECTED APPLICATIONS FOR MEMBERSHIP—CONCLUDED.

Name.	*Residence.*	*County.*
Stringer, A. W	Walton	Harvey.
Snyder, Wm	Eldorado	Butler.
Thomas, J. R. S	Longton	Elk.
Tucker, Jas. E	Edgerton	Johnson.
Thompson, J. L	Capioma	Nemaha.
Thurman, J. B	Columbus	Cherokee.
Thompson, S	Lazette	Cowley.
Tays, Jas. M	Geary City	Doniphan.
Tays, R. L	Leona	Doniphan.
Tuggs, H. G	Neosho Falls	Lyon.
Turner, E	Mound Valley	Labette.
Tyrrell, M. S	Stafford	Stafford.
Tapler, J. W	Montana	Labette.
Trimble, R. A	Larned	Pawnee.
Veanila, Seth		———
Willman, W. M	Clifton	Washington.
Williams, R. D	Lawrence	Douglas.
Winner, W. J	Great Bend	Barton.
Walker, O. D	Girard	Crawford.
Williams, D. B	McPherson	McPherson.
Woolsey, G. W	Sedan	Chautauqua.
Ward, A. J	Wilmington Township	Wabaunsee.

The following is a list of the rejected of the Eclectic Board:

Name.	*Residence.*	*County.*
Ullery, S	Monmouth	Crawford.
Marlow, A	Columbus	Cherokee.
Umphreys, J. T	Pleasanton	Linn.
Banta, H. M	Garden Plain	Sedgwick.
Daniels, Geo	Wellington	Sumner.
Cassidy, J. B	Hutchinson	Reno.
Young, J. H	Pretty Prairie	Reno.
Rogers, M. C	Arlington	Reno.
McKinney, A	Wichita	Sedgwick.
Mummey, W. W	Lawrence	Douglas.
Ley, J	Independence	Montgomery.
Simpson, W	Washington	Washington.
Carter, W. H	Glasco	Cloud.
Starr, J. G	Auburn	Shawnee.
Kerr, J. K	St. George	Pottawatomie.
Green, J. A	Atchison	Atchison.
Carter, C. S	Kansas City	———
Lewis, H	Leavenworth	Leavenworth.
McPherson, J. P	Topeka	Shawnee.
Walfe, J. C	Silver Lake	Shawnee.
Brown, J. R	North Topeka	Shawnee.
Smith, Peter	Junction City	Riley.
Davis, W. S	Neosho	Woodson.
Hayes, S. P	Chanute	Neosho.
Julian, Peter	Olathe	Johnson.
Butcher, L. H	Newton	Harvey.
Johnson, John	Leavenworth	Leavenworth.
Montgomery, C. J	Yale	———
Hanlin, W	Kansas City	———

Total number, 29. Some of the above were previously rejected by our board. A number on the list have, since they were reported to me by the Secretary of the Eclectic Board, received certificates from said

board. They have also issued certificates to numerous persons who were previously rejected by the board appointed by your Society.

The following persons have been reported by the Secretary of the Homeopathic Board as having been rejected by their board:

Burns, William, Wichita, Kansas.
Rubin, Fred, Abilene, Kansas.
Herkimer, R. A., Marshall Co., Kansas.
Huson, R., Lawrence, Kansas.
Warren, Amasa, Salina, Kansas.
Zimmerman, L., Troy, Kansas.

Total number, 6. Although the number rejected by the Homeopathic Board has been comparatively few, in so far as our information extends their course has been honorable in the application of the law. only issuing certificates to physicians belonging to their own school: they also claim to have required evidence of qualification in all cases, before certificates have been issued to undergraduates.

FINANCIAL REPORT OF THE BOARD.

Total number of applications	969	
Total number of fees paid	958	
Making total receipts of the Board		$4,790 00
Expense of D. W. Stormont, M. D., President of Board	$186 35	
" C. H. Guibor, M. D.	189 85	
" G. W. Haldeman, M. D.	75 30	
" W. W. Cochrane, M. D.	73 00	
" R. Morris, M. D.	329 50	
" C. C. Furley, M. D.	262 30	
" S. F. Neely, M. D., Secretary of Board	318 00	
Total expenses		1,434 30
Balance in the hands of the Board		$3,355 70

At the last meeting of the Society a resolution was adopted and an order drawn on the Treasurer for two hundred dollars; the amount to be applied towards defraying the expense of the board. We desire to report that no money has been taken from the treasury of the Society.

A resolution was also adopted, instructing the board to issue certificates to all members of the Kansas Medical Society, without regard to diplomas or fees; said resolution we believe to have been adopted without due consideration. The 12th section of the law provides "that no person who holds a certificate heretofore granted by either of the societies mentioned in the 2d section of the act shall be compelled to procure a new certificate, or be liable to any penalty for failure to do so." This is the provision of the law that the Society desired to avail its members of.

The proper and legal course to have pursued was by resolution directing the Secretary to prepare and issue the certificates of the Kansas Medical Society to its members.

The resolution adopted by the Society came directly in conflict with section 4 of the law, which reads as follows: "Said Board of Examination *shall* examine diplomas as to their genuineness, and if the diplomas shall be found genuine, as represented, the Secretary of the

Board of Examiners *shall* receive a fee of five dollars from each graduate or licentiate."

You will readily perceive that the law is imperatively opposed to both the requirements of your resolution, consequently the board could not honestly obey it though they desired to comply with every reasonable demand of the Society.

It is provided in sec. 12, "That the provisions of the act shall not apply to those persons who have been practicing medicine in the State continuously for five years prior to the taking effect of the act." The same section also provides, that when such persons have submitted proof of such continuous practice as herein provided, a certificate shall be issued them, as is provided in sec. 3 of this act.

But sec. 3 of this act makes no provision for any such certificate. It reads as follows: "They shall prepare two forms of certificate: one for persons in possession of diplomas or licenses, the other for persons examined by the Board."

This makes no provision for a certificate based on five years' continuous practice, without regard to qualifications, and your board has practically failed to recognize this incomplete portion of the act. If the law does not really apply to this class of practitioners, and does not intend that it shall be necessary for them to obtain certificates from either of the boards, no injustice has been done them; but it seems from the reading of the latter clause of the section a certificate is contemplated by the act; and in order to enforce this view of the law it would become necessary for the board to assume something, and improvise a third form of certificate, in conformity with the proviso, thereby giving the sanction of the individual members of the board, and thereby the indirect authority of the Kansas Medical Society, in many cases to the most notorious quacks, to practice medicine in the State of Kansas.

At the second meeting of the board, July 1st, a resolution was adopted by a majority vote, which required all undergraduates to apply in person before the Board of Examination; and this has been the governing policy of the board since that time. We believe that all reputable undergraduates residing in the State have voluntarily applied for examination without regard to the five years' continuous practice clause of the law, and when found qualified have received certificates, otherwise have been rejected.

It is claimed that this course has been unwise; that it has driven members of the profession who claimed to be regular to the Eclectic Board to obtain certificates. We feel that they are welcome to all such accessions, and believe that they properly belong to them, and are proper associates for such men as compose the Eclectic Board. We venture the remark that no reputable physician in the State has taken a certificate from the Eclectic Board.

At your last meeting, by resolution, the Board of Examiners were

instructed to report to this meeting any amendment to the law which they might deem necessary to make it more efficient. While the law is by no means such as we desire, yet, in view of the fact that since the first day of April last no certificates can be issued except to those who are graduates or licentiates in medicine, we think it advisable not to recommend any amendments at present.

Respectfully submitted.

S. F. NEELY, *Secretary of Board.*

TRANSACTIONS, 1881.

TOPEKA, KANSAS, May 10, 1881.

The fifteenth annual meeting of the Kansas Medical Society convened in the lecture room of the Congregational church, Topeka, May 10th, 1881, at 3 P.M., and was called to order by the President, B. E. Fryer, M.D.

On motion of Dr. Ross, the reading of the minutes of the last meeting was omitted, and they were adopted as printed.

The following members responded at roll-call: Drs. Adamson, Cochrane, J. M. Carpenter, Dickman, Eastman, Fuller, Fryer, Gibson, Grass, Guibor, Gray, Haldeman, Hoover, Hannawalt, Hogeboom, Hibben, Hills, D. C. Jones, Johnston, Lanphear, A. Leigh, W. D. Lewis, Morris, Morse, Miller, Mitchell, Morrall, May, Neely, Picard, Protherow, Robinson, Robertson, Ross, Sinks, Stuart, Sheldon, Tefft, Taylor, Terwilliger, Thompson, Van Eman, Woodward.

Drs. Heddens, Geiger and Hubbel, of St. Joseph, Mo., were introduced by Dr. Cochrane, and were invited to take part in the proceedings.

The President appointed Drs. Sinks, D. C. Jones, Guibor and Fuller to fill vacancies in the Board of Censors.

Dr. Eastman invited the members to visit the State Insane Asylum at any time during the session.

On motion of Dr. Daily, Dr. J. L. Teed, of Kansas City, Mo., was elected an honorary member of the Society.

Dr. Neely moved that Dr. J. P. Root, of Wyandotte, be reinstated as a member of the Society without the payment of dues accumulated during his absence from the State. Carried.

The Board of Censors reported favorably on the admission of the following persons to membership: Drs. N. S. Welles, Topeka; Jay H. Payne, Delphos; W. M. Campbell, Minneapolis; W. Cannon, Smith Center; D. W. Chase, Delphos; W. E. Shepard, R. D. Hudson, Atchison; J. D. Burdick, Topeka; S. N. Burgen, Topeka; M. O. Baldwin, Wyandotte; M. B. Ward, Manhattan; W. H. Easly, North Topeka; J. E. Minney, Columbus; Amos Potter, Paola; L. B. Divelbiss, LaCygne; J. B. Dudley, Topeka; F. E. Tefft, Topeka; T. A. Thompson, Grantville; J. W. Redden, Topeka; W. H. Righter, Topeka; L. W. Lynde, Clifton; O. A. Guseka, Wellsville; J. R. Thornburg, Princeton; J. T. Pindell, Wellsville.

The report was adopted, and the Secretary directed to cast the ballot in their favor.

Dr. Woodward read the report on Medical Electricity, which was received, and referred to the Committee on Publication.

The Society then adjourned, to meet at 7:30 P. M.

EVENING SESSION.

The Society met pursuant to adjournment, at 7:30 P. M.; the President in the chair.

On roll-call, the following additional members were present: Drs. Adams, Baldwin, Boyd, Buck, Cunkle, Chittenden, Gephart, Jacobs, Linn, Murphy.

The President then delivered the annual address, which was received, and ordered to be published.

Dr. Schenck moved that so much of the address as refers to the State Board of Health and State Medicine be referred to a committee of three; so much as refers to the State temperance law to a committee of three; so much as refers to medical education, to a committee of three; so much as refers to a change of the time of meeting of this Society, to a committee of three. The motion was adopted, and the following appointed such committee: Committee on State Board of Health and State Medicine — Drs. Schenck, Mitchell, and Boyd; Committee on State Temperance Law — Drs. Root, Oliver, and D. C. Jones; Committee on Medical Education — Drs. Grass, Fuller, and G. R. Baldwin; Committee on Change of Time for Meeting — Drs. Haldeman, Van Eman, and Stuart.

Dr. J. H. Stuart then delivered the public address, which was received with thanks, and referred to the Committee on Publication, with instructions to publish it.

Dr. Schenck moved that a copy of the address be furnished the press for publication. Carried.

A poem was then delivered by Dr. W. T. Oliver.

The President appointed the following Nominating Committee: Drs. Cochrane, Dickman, Lewis, Schenck, Hills, Jacobs, Hannawalt, Linn, A. Leigh, Morris, Boyd, Ross, Adamson, Neeley, Guibor, Carpenter, Grass, Murphy, Adams, Robertson, Robinson, Jones, Root, Woodward, Chase, Buck, Guseka, Oliver, and Cunkle.

The Board of Censors reported in favor of admitting to membership Dr. J. W. Balsley, Oskaloosa. Motion was made that the report be adopted and the Secretary directed to cast the ballot of the Society in his favor; pending the consideration of which, the Society adjourned, to meet at 8 A. M. Wednesday morning.

MORNING SESSION.

TOPEKA, KANSAS, May 11, 1881.

The Society met at 8 A. M., Wednesday morning, pursuant to adjournment; the President in the chair.

On roll-call the following additional members were present: Drs. Bell, Brown, Blackwood, Converse, Greene, Lyman, Myers, Maxson, Steele, and Tenney.

It was moved that Dr. Heddens, of St. Joseph, Mo., be allowed to make a statement before the Board of Censors, which motion prevailed.

The consideration of the report of the Board of Censors on the admission of Dr. J. W. Balsley was resumed. After some discussion, an amendment adopting the report was carried, and the ballot called for. The chair appointed Drs. Morris and Haldeman tellers. A ballot was had, with the result of 39 for and 22 against. There not being a majority of two-thirds in favor of the candidate, as required by the by-laws, he was declared rejected.

The Secretary presented his report, as follows:

I have the honor to submit the following report for the past year.

In accordance with the instructions of the Society, 1,200 copies of the Transactions were printed, at a cost of $200. A copy was sent to each person holding a certificate, to the principal medical journals, and to the different State societies from whom transactions were received in exchange. Of the number published, 150 remain on hand.

The following railroads will return members at one-fourth regular fare, on presenting certificates of attendance, signed by the Secretary: The Atchison, Topeka & Santa Fé; the Kansas division of the Union Pacific; and the Kansas City, Fort Scott & Gulf, from Kansas City; and Kansas City, Lawrence & Southern, from Lawrence or Kansas City.

Charges and specifications against Dr. W. H. Buckmaster, of Oskaloosa, were filed in the office of the Secretary, April 20, 1881, by Dr. D. J. Ross. I at once forwarded a copy of the same to the accused, and notified him that the trial would be had at this meeting.

An order was issued to Dr. Morris for $200, for services on the Board of Examiners, and one for $35.75, for costs in the Supreme Court in the case brought by the Board to test the validity of the law and the charter of the Society. I would recommend that the decision given by the court be published with the Transactions the present year, and also the act of incorporation, constitution, and by-laws, as they now exist.

Respectfully submitted.

F. D. MORSE, *Secretary.*

On motion, the report was adopted.

The Secretary also presented the following bill, which was referred to the Auditing Committee:

KANSAS MEDICAL SOCIETY, *To F. D. Morse, Secretary,* *Dr.*

1880.	To expressage on MSS	$0 75
	" postage on 910 Transactions	27 30
	" wrappers	1 30
1881.	" printing, as per bill	10 00
	" postage, etc	2 00
	Total	$41 35

The Treasurer submitted the following report:

ATCHISON, KANSAS, May 10, 1881.

W. W. COCHRANE, Treasurer,
In account with Kansas Medical Society.

To balance on hand for 1879	$423 00	
To amount received for 1880	192 50	
		$615 50
By amount paid F. D. Morse	$27 50	
By amount paid Hollister	30 00	
By amount paid for Transactions	200 00	
		257 50
Balance on hand from 1880		$358 00

W. W. COCHRANE.

The report of the Treasurer was referred to the Auditor Committee, consisting of Drs. Miller, Stuart, and A. Leigh.

The Board of Censors reported that the charges against Dr. W. H. Buckmaster had been withdrawn by Dr. Ross.

The committee to whom was referred that portion of the President's address in relation to the temperance law submitted the following report:

Your committee to whom was referred that portion of the President's address relating to the temperance law have had the same under consideration, and beg leave to unanimously report that we recommend a full compliance with the law.

[Signed] J. P. ROOT,
D. C. JONES,
W. T. OLIVER,
Committee.

The report was laid on the table, by a vote of 34 to 23.

The following report was then submitted, and adopted by the Society:

Your committee to whom was referred so much of the President's address as refers to State medicine and the medical practitioners' act cordially indorse the same, and recommend the adoption of the following:

Whereas, The State of Kansas has occupied unbroken ground upon some of the great moral questions of the age: therefore,

Resolved, That in the opinion of this Society, she should continue in well-doing, and keep abreast her sister States in making laws for the protection of her people from "the pestilence that walketh in darkness and wasteth at noonday."

Resolved That this Society appoint a committee of five, who shall report at its next annual meeting the form of a bill organizing a State Board of Health, and suitable laws for the protection of health and life.

[Signed] W. L. SCHENCK,
GASTON BOYD,
Committee.

The committee to whom was referred the question of a change in the time of holding the annual meetings of the Society, recommended that no change be made at present, and this report was adopted.

The Board of Censors reported in favor of admitting the following to membership: Drs. T. J. Conry, Florence; W. W. Hibben, Emporia; J. R. Willets, Fredonia; R. J. C. Dodds, North Cedar; J. Crans, Riley Center. The name of Dr. Hibben was referred back to the Censors, and the report was adopted and the ballot ordered in their favor.

The Auditing Committee reported that they found the report of the Treasurer correct, and the bill of the Secretary correct, and recommended that it be paid. Adopted.

Dr. G. R. Baldwin read the report of the Committee on the Practice of Medicine, which was referred to the Publishing Committee.

The Board of Censors reported in favor of admitting the following to membership: Drs. T. J. Miller, Sedgwick; H. C. Miner, North Topeka; E. J. Meacham, Concordia; L. M. Henry, Carmel; A. M. Wassam, Eureka; W. W. Hibben, Emporia. The report was adopted, and the Secretary ordered to cast the ballot in their favor.

The Board also recommended that Dr. Heddens, of the St. Joseph College of Physicians and Surgeons, be allowed to make a statement in regard to that college and the resolutions passed by the Society at its last session. By vote, this permission was granted; and after Dr. Heddens had made the statement, the question of rescinding the resolution was referred back to the Censors, to report at the next meeting.

Dr. Haldeman offered the following resolutions, which were adopted:

Resolved, That we, the Kansas Medical Society, in annual convention assembled, do hereby tender thanks to Wm. M. Singerly, Esq., the proprietor of the *Record*, for the efforts made by him, through his paper and otherwise, to suppress the abominable traffic in bogus diplomas, so largely carried on in Philadelphia by the notorious Buchanan.

Resolved, That the above resolution be spread upon the minutes of the Society, and that a copy, authenticated by the President and Secretary, be sent to Mr. Singerly.

The Nominating Committee submitted the following report, under a suspension of the rules:

OFFICERS FOR THE ENSUING YEAR.

President—J. H. Stuart, M. D., Lawrence.

First Vice-President—G. W. Haldeman, M. D., Paola.

Second Vice-President—C. H. Guibor, M. D., Beloit.

Secretary—F. D. Morse, M. D., Lawrence.

Assistant Secretary—L. J. Cunkle, M. D., Madison.

Treasurer—W. W. Cochrane, M. D., Atchison.

Board of Censors—Drs. W. L. Schenck, John Grass, L. D. Jacobs, Gaston Boyd, M. O. Baldwin.

REGULAR COMMITTEES.

Practice of Medicine—Drs. W. W. Murphy, V. G. Miller, F. F. Dickman.

Surgery—Drs. A. Leigh, L. J. Lyman, J. Grass.

Obstetrics—Drs. W. W. Cochrane, R. Morris, W. T. Oliver.

Materia Medica—Drs. W. M. Shean, C. H. Guibor, S. E. Sheldon.

Physiology—Drs. F. M. Daily, H. O. Hannawalt, L. A. Buck.

SPECIAL COMMITTEES.

Blood-letting—Dr. G. W. Haldeman.

Recent Advances in Chemistry—Dr. G. H. Picard.

Sanitation—Dr. Jno. Grass.

Nervous Diseases—Dr. B. D. Eastman.

Gynecology—Dr. D. W. Stormont.

Scarlatina—Dr. J. D. Burdick.

Diphtheria — Dr. N. J. Taylor.
Diseases of Eye and Ear — Dr. B. E. Fryer.
Orthopædic Surgery — Dr. J. M. Carpenter.
Surgical Appliances — Dr. W. A. McCully.
Puerperal Peritonitis — Dr. A. Fuller.
Psychology — Dr. A. H. Lanphear.
Membranous Croup — Dr. A. M. Wassam.
Placenta Previa — Dr. J. W. Redden.
Astigmatism — Dr. F. B. Tiffany.
Differential Diagnosis of Diseases of the Spinal Cord — Dr. J. L. Teed.
Public Address — Dr. S. F. Neely.
Place of Meeting — Emporia.
Time of Meeting — Second Tuesday in May, 1882.
Delegates to the American Medical Association for 1882 — Drs. Stormont, Ross, Grass, Morris, Fryer, D. C. Jones, Neely, Root, Oliver, Hannawalt, Dickman, Pindell, J. M. Carpenter, Sinks, Roberts, Murphy, Boyd, Cochrane, Linn, Chase, Bell, V. G. Miller.
Delegates to Colorado Medical Society — Drs. H. P. Woodward, W. D. Lewis, M. S. Thomas.

It was voted that the Secretary be instructed to publish with the Transactions, this year, the constitution, by-laws, and code of ethics.

The Board of Censors reported in favor of admitting to membership Dr. G. W. England, of Larkin. The report was adopted, and the ballot ordered in his favor.

Dr. G. Boyd read a report of a case of heart disease, and exhibited a pathological specimen. The report was referred to the Committee on Publication.

Under a suspension of the rules, Dr. Root offered the following resolution:

Whereas, The Secretary of this Society, in calling the annual meeting of said Society at the place, made the following special announcement: "A full attendance is requested, as important business will come before the Society in relation to the new temperance law," as the only unusual inducement for a full attendance: be it

Resolved, That the Secretary be requested to explain to this meeting, at this time, the meaning of the aforesaid announcement; and that an expression of this Society upon this subject referred to by the Secretary in his card calling us together, be had.

The resolution was adopted, and after the explanation of the Secretary, it was moved by Dr. Root that the views of the President in his address, in regard to the temperance law, be adopted by the Society. Carried.

The Society then adjourned to meet at 1:30 P. M.

AFTERNOON SESSION.

The Society met at 1:30 P. M., pursuant to adjournment; the President in the chair.

The report of the State Board of Examiners was presented by Dr.

Neely, Secretary of the Board. The report was adopted, and the Secretary, Dr. Neely, was directed to correspond with the absent members of the Board and pro-rate the deficiency in the accounts of the Board in the salaries of the members of the Board.

Dr. Cochrane moved that the Secretary be directed to inquire into the expense attending the suit in the Supreme Court, and if the attorney's fees have not been paid, that an order for that amount be drawn. The motion was lost.

Rev. Dr. Dodds, of Topeka, was elected an honorary member of the Society.

The Board of Censors reported in favor of admitting to membership Dr. Deborah K. Longshore, Topeka. This report was adopted, and the ballot ordered in her favor.

Dr. Schenck read a report of a case of disease of the bones, which was referred to the Committee on Publication.

The President then appointed the following committees:

Committee on Publication—Drs. Sinks, Lanphear, and Morse.

Committee on Medical Law and Public Hygiene—Drs. Schenck, Stormont, Fuller, and Mitchell.

Committee on Necrology—Drs. Tenney, N. J. Taylor, and Lyman.

Committee of Arrangements—Dr. Jacobs and members of the Society residing at Emporia.

Dr. Fryer read a report on Diseases of the Eye, which was referred to the Publishing Committee.

Dr. Eastman read a report on Puerperal Insanity, and Dr. Lanphear read a paper on the Psychical Force, physiologically distinguished from the forces of organic life. These papers were referred to the Committee on Publication.

Dr. Teed, of Kansas City, then addressed the Society on the subject of Inflammation.

The Board of Censors submitted the following report:

Your Board of Censors report in regard to the matter in relation to the St. Joseph College of Physicians, referred to them at this morning's session, that said medical college, having presented to this Board satisfactory evidence that its present requirements for graduation are essentially the same as those adopted by other first-class medical colleges, and its assurances that it will in the future maintain such standard of requirements, your Board of Censors would recommend that the resolution of this Society reflecting on the character of said college, passed at the session of 1880, be rescinded.

The report was adopted by the Society.

The Board of Censors reported favorably on the admission of the following to membership: Drs. J. Komitzer, North Topeka; H. D. Hill, Augusta; M. Cazier, Burlingame; J. P. Lewis, Topeka. The report was adopted, and the ballot ordered in their favor.

A bill of $15, for the use of the lecture-rooms of the church for this meeting, was presented, and referred to the Auditing Committee.

Drs. N. J. Taylor and Mitchell were appointed to fill vacancies on that committee.

Dr. Robertson presented a specimen of fibroid tumor of the uterus, and explained the case.

Dr. Lyman presented a specimen of polypus of the uterus, and read a report of the case, which was referred to the Committee on Publication.

The Society then adjourned to 7:30 P. M.

EVENING SESSION.

The Society met at 7:30 P. M.; the President in the chair.

The Auditing Committee reported that they found the bill of $15 for the use of the room for meeting correct, and recommended that an order be drawn for that amount. The report was adopted.

It was moved that an order for $125 be drawn for payment of attorney's fees in the case brought by the Board of Examiners before the Supreme Court. Carried.

The Board of Censors reported in favor of admitting to membership Dr. Emily A. Hammond, of Topeka. This report was adopted, and the ballot ordered in her favor.

The following papers were read, and referred to the Committee on Publication: Report on Scarlatina, by Dr. Ross; report on Digestion, by Dr. Mitchell; report on Hernia, by Dr. Picard; and a report on Atmospheric Ferments, by Dr. Converse.

Dr. Blackwood reported a case of prolapsus of the vagina, and asked the opinion of members in regard to the treatment.

The following resolution was offered by Dr. Hogeboom, and adopted:

Resolved, That the thanks of this Society are hereby tendered to Dr. B. E. Fryer for the honest, able and impartial manner in which he has performed the duties of presiding over the deliberations of this session of the Society.

The report of the Committee on Necrology was read by the Secretary, and referred to the Committee on Publication.

The thanks of the Society were tendered to the physicians and citizens of Topeka for their hospitality, and to the railroads for granting reduced rates to members.

The Society then adjourned, to meet in Emporia on the second Tuesday of May, 1882.

F. D. MORSE, M.D., *Secretary.*

ADDRESS OF THE PRESIDENT.

BY B. E. FRYER, M.D., U.S.A., FORT LEAVENWORTH, KANSAS.

It is with pleasure I greet the members of the State Medical Society of Kansas at this the fifteenth annual gathering. Our year of separation has rolled around, and we meet again to enjoy, appreciate and gain once more by exchange of thought and the expression of thought from the experience of our work and study accomplished since we met last. These our annual meetings are not only a matter for mental gain by the mental attrition had, but they in reality are, and should be so looked upon, a pleasant recreation for every one of us medical men — a diversion from our practical professional work, a relief, and agreeable relief, from the continued mental strain which is the lot of every true worker in our calling. Let us at this present meeting each believe this, and each of us try, too, to contribute his mite towards a goodly sum for professional advancement and pleasurable diversion, for mental profit and enjoyable association, the result to be absorbed and assimilated by all.

I would, with these objects in view, be glad if it met the wishes of the members, to have as little time given as possible, none more than is actually essential, for the dry business portion of our sessions, but that reading of medical papers and discussions on them, and relations of cases, should occupy the greater portion of the sessions of the Society. Being one of those who believe that we have all in the past been too much trammeled by weight of authority, I am always glad to hear and profit by the opinion and experience of the workers in the profession everywhere and at all times.

The opinion of a careful observer, the result of the reflection of the earnest, intelligent worker, is of more real value to our profession than the ideas of many who have written into fame by book making, based as the latter often is, on little or no self-experience.

If this be true as I assert it, the experience and reflection on this experience should be sought from each of the active workers of our Society, and I believe that most of our members are very active. Many have been the advances in medicine made by the clear-thinking practitioner when driving quietly alone to a distant patient, and much of our clearest, best thought has been had from the country practitioner while quietly pursuing his duty in a thinly-settled region.

I deem it necessary to ask the attention of the Society to several points of interest, legally, to us as practitioners of medicine and surgery in this State. Our State law regulating the practice of medicine was decided by the Supreme Court in February last to be unconstitutional, and thus we are practically without any legislation for the pre-

vention of quackery. It would seem that in this great State of Kansas, which has so much intelligence among its people, that there ought to be no difficulty in obtaining the passage of a bill for this purpose which would be eminently satisfactory to all. My own idea is that a law like that of Illinois would work here as it does in that State, with great advantage.

I trust that during our session this subject will receive the proper and due consideration it merits, and that steps will be taken by our Society towards securing a proper legal prohibition of quackery.

The State temperance law lately passed by the Legislature has one requirement objectionable to many physicians, viz.: the taking of an oath prior to prescribing any alcoholic stimulant. This alone should not, it seems to me, be objected to, for while it may seem at first sight to reflect upon those who are beyond suspicion, it is well to remember that laws are made not for the ruly and those obedient to law, but for the law-breakers. It is required of the President of the United States that he take the oath of office, but we have no doubt that without it he would faithfully perform the duties of his office. The requirement does not of necessity infer a suspicious evasion of law without it — oath of office. Let us as physicians study the effect of the law and be the earnest workers in obedience to it.

It must be a matter of mortification and much regret to every progressive member of our profession that one of the largest medical schools in the country has lately receded from the admirable advance it had made in common with several of the medical colleges of the country, and that it now announces that hereafter it will not require more than two courses of lectures for graduation. It would seem to me that it would be well to have some expression from our Society on this point. It is especially humiliating that this step should be taken when it is known that after 1882 all the medical schools forming the college association, that is, by far the greater majority of them throughout the land, will require three full sessions of lectures before examination for degree is allowed.

I would suggest that the time for our annual meeting be changed either to an earlier or a later date, so as not to conflict with the meeting of the National Medical Association, and would wish for the opinion of the Society on this and the other points to which I have called attention.

In accordance with the wish I have expressed, viz., that it may be the desire of the members of the Society to give as much time as possible for the real and profitable medical work of our meeting, I have purposely made my address to you a very brief one.

Thanking you sincerely for the great honor you have conferred upon me in electing me your President, we will now proceed to the more interesting work of the session.

PUBLIC ADDRESS.*

BY J. H. STUART, M.D., LAWRENCE, KANSAS.

A few years ago the Kansas State Medical Society resolved that thereafter on the occasion of its annual meeting there should be delivered, by one of its members, a public address. It was added by the mover of this resolution, that there were many subjects about which it was not only the privilege but the duty of the medical profession to inform the public. In this way, also, a better understanding would spring up which would result in good to all.

There is a large range of topics from which a selection might be made for such an address; as for examples, the ventilation of buildings, drainage, contamination of drinking-water, the disposition of slops and decaying organic material, the education of nurses, heredity, and many curious and interesting phases of psycho-physiology. But I have chosen to pass by all these and to speak briefly to you to-night on a few phenomena that seem to have a bearing on the *immortality of the soul.* This subject is not foreign to our interest, either personally or professionally. It is constantly presenting itself. It occurs throughout all records of human thought, as the remains of life occur in the fossil-bearing strata that encrust the earth.

This, it may be remarked, is not wholly a one-sided question. Although the great majority of mankind answers it with emphasis that death is not the end of all—that there is a part of us that is immortal, yet there have always been those who hold the contrary opinion. Of this class were the sophists and skeptics of the Socratic era. This belief was prevalent also among the Romans. Julius Cæsar, "the highest functionary of state religion," is said to have opposed the execution of Catiline because death was not a sufficient punishment. "Death," said he, "is a rest from troubles to those in grief and misery, not a punishment; it ends all the evils of life; for there is neither care nor joy beyond it." It was the distinguishing doctrine of the Saducees. Lately it seems to have somewhat revived under the strong impetus given to the study of the physical sciences. But it cannot be denied, however, as has been said, that for the most part there has existed in the human breast a strong belief in the immortality of the soul. We cannot go back to the origin of this faith. It is as old as the race itself. It is no doubt one of the primary or necessary beliefs.

But so far as the testimony of our senses, derived from observation,

*Abbreviated by the author.

goes, it adds little to strengthen this belief. Indeed, there is a tendency in those who have grown familiar with the phenomena of death, if other evidences of immortality be overlooked, to regard death as the termination of all things. It certainly presents a very strong appearance of such an issue. To observe the disturbance of function caused by disease, and to mark the decay of old age and witness the failure of the mind, *pari passu*, with the decadence of the body, is not a little calculated to lead to materialistic views. In this way physicians are, of all classes, most apt to become heterodox in their views, if they be only superficial philosophers.

Who has ever returned from the confines of that undiscovered country? Instances are recorded, it is true, of persons coming to life after they have died, but is it not strange that no one has ever brought back some satisfactory account of the land of the hereafter? "Man goeth to his long home and the mourners go about the streets." It has always been so. The departed has gone forever, and there is no hope of his return. It is like the sinking of the pebble into the fathomless depths of the ocean, over which the waters close and all hope of regaining it fades away. The life of the infant vanishes like the snowflake on the water. The strong man dies and is gone, and no vanishing echoes of his departure return to greet our out-reaching senses. So also is it with the decadence of age. Nowhere in this direction is there found any clue to the future, but ever the same closing against us of "the curtains of the low green tent which never outward swing."

But perhaps what death shuts from our view, life, by its marvelous processes, may unfold to us. Can we derive any evidence from the function of any organ of the body that will throw a ray of light on this great question? Let us take up a little in detail the process of seeing or the sense of sight, and discover, if we can, any bearing it may have on the subject. There will be room to consider only a few of the more striking phenomena that come under this head, and the first that we shall notice is spiritualism.

The evidence of this doctrine rests wholly upon the senses, seeing and hearing. It is decidedly realistic. Without discussing at length the validity of it, I shall assume that I am warranted in saying that the character of the information which spiritualism furnishes, and the means of obtaining it, as well as the influence it exerts, have not only withheld from it a general acceptance, but have excluded it from scientific rank. The information it gives is not reliable, and although it includes much that is mysterious and inexplicable to most minds, yet it cannot escape the imputation of being a delusion. Many of its manifestations, which a few years since gained the credence of even thoughtful and intelligent minds, have since been demonstrated to be mere tricks of legerdemain, and the presumption is strong that in no great length of time this whole class of phenomena will be relegated to the

same category, except what properly and legitimately belongs to psycho-physiology. Spiritualism, *per se*, does not throw any trustworthy light upon the problem of the immortality of the soul. This, however, will appear more clearly as we proceed with the subject of visions, which includes all those manifestations observed in the delirium of fevers, the effect of drugs and stimulants, the illusions and hallucinations of insanity, and the workings of the imagination under the influence of strong feelings or emotions. It will be necessary to a right understanding of the subject, in the first place, to study the mechanism of the visual apparatus. I quote from Dalton, Ferrier, and Clark: "The process called seeing is by no means simple and uncomplicated. The eye does not see of itself; on the contrary, the part it performs in the presentation of the objective world to the mind is mechanical. It is the camera which gathers the rays of light passing from the object viewed, and it uses them in such a way as to form an image on the retina — the sensitive expansion of the optic nerve. It is not correct to suppose that the mind directly inspects the image thus formed, and thereby perceives and ideates; on the contrary, as above indicated, the function of the eye is simply to collect the data out of which vision is constructed, such as color, form, outline, size, position, distance, direction, and movement of objects." "This complex sensation made upon the retina is telegraphed to the tubercula quadrigemina, the function of which ganglia," Dalton says, "is to preside over the process of vision and over all automatic and reflex actions which require vision for their perfect performance and harmonious development. They preside over the muscles of the eye, control the dilatation and contraction of the pupils, and the coördination of the movements of the eye." "In these ganglia the crude visual impressions are elaborated, classified, and prepared, after leaving the eye, for the use of the higher cerebral centers, where ideation goes on." "The tubercula quadrigemina constitute the second station on the way from the eye to the frontal lobes of the cerebrum." The real centers of vision are the *angular gyri*, which constitute the third telegraphic station from the objective world to the subjective ego. "These ganglia," according to Ferrier, "are a section of the frontal lobes of the brain. . . . In close proximity are the centers of smell and taste, as well as the tactile center. So that this region contains, as near anatomical neighbors, the centers or centric terminal stations of the five senses, of sight, hearing, smell, taste, and touch. It is a region in which these senses bring the whole external world into immediate contact with the mind; a region where matter assumes its most immaterial, and mind its most material condition: and where, if anywhere, mind and matter touch each other." "These ganglia are composed of groups of corpuscles, granules of protoplasm, cells, inclosing nuclei and nucleoli, interlacing nerve fibers, blood vessels, and connecting tissue."

"If we may trust the conclusions of eminent physiologists, it is curious to note the process of the visual function. Definite impressions made on the retina of the object of vision are not transmitted to the visual center, but messages of the same are transmitted, comprehended and forwarded at each successive station, being eliminated, interpreted and adapted, so to speak, to the quality and function of the next succeeding ganglion." "Thus it appears that seeing is an intercranial process—that it is the completion of a succession of sensational processes, each successive one reaching nearer and nearer to the abode of the soul."

It is not necessary to detail the methods of study that have led to these results. Suffice it to say that they have been in part through investigations of physiologists on animals, and largely from observations made on the effects of disease.

If this be true, or if it point in the direction of truth, then it will lead to two important conclusions: First, that the organs of the senses are but contrivances most marvelously adapted, each to its characteristic way of presenting the objective world to our intelligences; and second, that there exists within us a *something*—an *ego*, or *soul*—which, though dependent upon the organs of the body for its cognizance of the outer world, yet is independent of it as to its existence, and to which the body with its organs and functions is subservient.

All that we can know of the world about us is through our senses. If these avenues be closed, a veil is drawn about us. If the organs of the senses become perverted or deranged in their functions, we are unable to perceive things in their true light. It requires the harmonious action of all the senses to supply the requisite data. Our idea of horse, for example, is based upon the information conveyed to us by the combined action of the organs of seeing, hearing, feeling, smelling and tasting. Without all these it is necessarily imperfect. Had we one or more additional senses our idea of horse might become considerably modified. Ideas are registered impressions on the brain. The mind uses them, reviews them, reasons upon them, and may reproduce the objects from which the ideas sprang. Or it may combine and arrange its ideas in new and unusual forms. If, as it is commonly expressed, the mind itself is deranged, then who can tell what phenomena may be presented? But it is not correct, properly speaking, to say "the mind is deranged," for the conditions thus designated are no doubt merely the result of functional or organic diseases of some portion of the nervous centers. The condition of proper normal cerebration is an ample supply of properly oxygenated blood. If this be not present, or if there exist any one or more of various recognized disturbing causes to obstruct, derange or destroy the coördination of nerve cells, or their groupings, then sensations from the objective world become abnormal, and *false seeing* results. Familiar objects assume new and

strange forms. A near and dear friend may appear as a robber or assassin. Scenes of early life, long forgotten, are reviewed and unnaturally blended with those of later years. I said forgotten, but nothing in a physiological sense is ever forgotten. It is doubtful if an idea is ever lost. It may lie long dormant, but under proper stimulus it will be revived. People brought to death's door by submergence in water tell us that in a moment of time, as it seemed to them, their whole lives passed before them in review.

The body is the "bridge" that spans the chasm that separates the kingdom of spirit from the kingdom of matter. How wondrously and marvelously it performs its functions! How passing strange that elements so diverse should be brought into such intimate harmonious relationship! So true is this that the body seems almost of itself to act as mind, as is exemplified in our automatic actions. And on the other hand, how often are we led by growing physical infirmities to conclude that the mind is becoming impaired. This does not take place. It is only seeming, because it cannot readily use its instrument, the body.

The visions of the dying are worthy of our consideration in this connection. However deceptive pseudopia, or false seeing, may be, things seen and heard by those from whom the soul is just taking its departure *may* possess reality. At this time, if ever in the body, certainly the spirit may be permitted to look out in the direction of its going and see at least the opening of the way—see the margin of the river to be crossed, and, forsooth, to hear echoes from the farther shore. Death, *per se*, is no violent break in the course of nature. It is as natural as birth, and as necessary to the continuation of life, for the latter is constantly springing out of the former. This is the law of existence. "Death is an epoch in life, rather than the end of life."

Generally death is painless, and it possesses not the terrors with which it is usually associated in our minds. As the vital functions begin to fail, the anæsthesia produced by imperfectly oxygenated blood, of defective innervation, the paralysis of motory and sensory centers blunt the sensibilities, and the last deep sleep steals upon the system like a calm and profound slumber. Again and again, after a painful illness, as the end approached, have we not witnessed the gradual subsidence into a peaceful quietude and calm indifference to all surrounding circumstances?

It would seem that there must be a moment when the soul quits the body and departs to Him who gave it. When does it withdraw from the body, gather up its invisible members and take its flight? Why can we not feel the motions of its influence in some way as it brushes past us? Dr. Clarke, in his work on "Visions," relates an interesting case of a "lady of middle age who came to her death from cardiac disease, possessing her mental powers perfect, and all her faculties clear to the last. She conversed pleasantly and intelligently a few

minutes before dying, having no stupor or strangeness, or moribund symptoms indicating cerebral disturbance. After saying a few words, she turned her head upon the pillow as if to sleep, then unexpectedly turning it back, a glow, brilliant and beautiful, exceedingly, came into her features; her eyes opening, sparkled with singular vivacity; at the same moment, with a tone of emphatic surprise and delight she pronounced the name of the earthly being nearest and dearest to her, and then dropping her head upon her pillow as unexpected as she had looked up, her spirit took its departure." The author adds: "The conviction forced upon my mind that something departed from her body at that instant, rupturing the bonds of flesh, was stronger than language can express." I will add an instance of my own observation. I attended a lady dying of consumption. She seemed, as is often the case in that disease, never for a moment to be willing to entertain the thought that she must die. She would not allow the subject discussed in her presence, but always spoke and seemed to feel that it was necessary that she should recover for the sake of her family, and she apparently entertained no doubt that such would be the case. She never for an instant was observed to manifest any lack of mental clearness. As we sat by her bedside one morning, watching the gradual failure of the vital energies, suddenly from a state of calmness and unruffled feeling, except the difficulty of breathing that seemed somewhat to increase, she opened wide her eyes, the pupils dilated as if taking in some striking object of vision, and her features bore evidence of a wonderful surprise that had burst upon her. It continued for a short time without any expression escaping her lips, when the attitude of attention left her features and she soon ceased to breathe.

I will, in conclusion, add briefly a few evidences of a more rational character, that death is not the end.

A belief in the immortality of the soul is so general that it may be denominated the common experience of mankind. It seems to be innate. Archbishop Manning affirms "that the common-sense decision of mankind in regard to the existence of the eternal world is worth more than all the arguments of all the logicians. What is true of a judgment formed by the interpretation of the intellect on the report of the senses is still more evidently true of the decisions of our consciousness on such interior facts as thought or will, and of the existence of our living personality, the agent who thinks and wills." "This decision of mankind," says the same author, "derived from the consciousness of the existence of our living self, or personality, is practically worth more than all the arguments of all the logicians who have discussed the basis of our belief in it." Dr. Carpenter says: "The foundation of much of our beliefs, and the only source of much of our knowledge, is to be found in the constitution of our own minds." The prevalent belief in immortality is proof of it. The argument from the nature of life. It is very diffi-

cult to frame a satisfactory definition of life. One says, "Life is the power which directs the movements of bioplasm — *not* that which moves the bioplasm, but which *directs* the movements."

Prof. Frey says "a spontaneous origin does not occur." Prof. James Tyson says "there is a presiding agency that controls the arrangement of cells (in organized beings) to a definite end." No definition of life can be satisfactory which does not include the agency of a directing and controlling and formative power foreign to matter itself. "Force is always and everywhere of spiritual origin," says Prof. Pierce, "whilst inertia is always and everywhere a property of matter." "There is," says Faraday, "one wonderful condition of matter; perhaps it is the only true indication, namely inertia. If there be no life in the smaller units there can be no life in their sum." "Life is force, life is power," Faber says. "The highest pleasure of life is the consciousness of intellectual power."

Perhaps it will be objected that this argument proves too much — that it proves the instinct even of animals to be a spiritual force, and therefore immortal also. Perhaps it does prove this. It is not necessary to prove that it does not. Presumably such is the case. Bishop Butler was not unwilling to believe it. "There is," said he, "really no difficulty at all in the supposition that brutes are immortal." And he suggests that "the economy of the universe may require that there should be immortal creatures of this class, that is, without a rational or moral nature." (Analogy of Religion.)

Agassiz in his essay on "Classification" says: "Most of the arguments of philosophy in favor of the immortality of man apply equally to the permanency of the immaterial principle in the lower beings. May I not add that a future life in which man should be deprived of that great source of enjoyment and intellectual and moral improvement which results from the contemplation of the harmonies of an organized world, would involve a lamentable loss? And may we not look to a spiritual concert of the combined worlds and all their inhabitants in the presence of their Creator as the highest conception of Paradise?"

HERNIA.

BY G. H. PICARD, M.D., TOPEKA, KANSAS.

When a general practitioner of medicine and surgery learns to his discomfort that the nominating committee has named him for a report upon Hernia, he at once realizes the fact that his most implacable enemy has been at work, and after a year's constant mental activity as to the best means of securing an ample revenge, he concludes that his

opportunity is best served in the presentation of a report. I have nowhere observed in the Transactions of this Society a report upon the subject of Hernia, although it continues to be assigned at every meeting with a constancy worthy of a better result. One gentleman begs leave to substitute a paper upon the more transcendental subject of "The Relative Physiognomy of the Spermatozoa;" another prefers to relate "How a rival and irregular *confrere* erred in diagnosticating a case of *blepharo-phimosis;*" and all the others remain at home.

There is no use in disguising the fact that the subject of hernia is not fascinatingly novel. It is, furthermore, a topic upon which Park, Davis & Co. do not waste much printer's material. It is also a melancholy fact that whatever we know about hernia Hippocrates knew, and the *paraschites* of ancient Thebes knew, and there is a strong suspicion extant — which is being carefully fostered by modern Orientalists and pyramid-scholars — that those remote physicians held very successful secrets, which are unknown to the less-fortunate surgeons of this Society; so that when an ancient surgeon-monk of the Theban desert writes learnedly under the caption of "A Treatise upon the Restoring of the Intestine to its Providential Position," and in which he strongly advises "a speedy suspension by the heels," we must needs ask ourselves, in the midst of our amusement, if modern skill prescribes any more rational method?

It has frequently seemed to me that the consideration of hernia belongs more appropriately to the domain of theology than to surgery. Why any viscus of the human body should show a disposition to escape from its well-appointed habitat, and even if so, why the *parietes* of the human frame should yield to such a disposition, is a question entirely ignored by Dr. Paley in his chapter upon "Design;" but it seems to me to be a question worthy of Thomas Aquinas and the disputatious schoolmen.

After all, the consideration of hernia has its uses. It is as undoubtedly the show-subject of the anatomical professor of to-day as it has ever been. It serves to distinguish and mark out the individualities of anatomists. One anatomist is known from his fellows by the number and variety of his "hernial coverings," as other men are known by their noses, *retrousse, aquiline,* etc. In this country, Prof. Frank Hamilton claims precedence over all competitors, having discovered twenty-two coverings at a single sitting, having been prevented from further investigation by the now famous admonition of his patient "to stop dissecting and go on with the operation."

Perhaps the point of most vital import in the discussion of hernia is its radical cure. I regret to state that the idea seems to be almost abandoned by the regular profession, and that whatever activity is shown is being displayed by quacks and irregulars. Certain quack doctors who infest a neighboring town in great force — we have none

such in our State, owing to our wisely discriminating medical law — have acquired both wealth and reputation in the rural districts of this valley by numerous reported cures of hernia.

Two modes of treatment are employed by these wandering Jews of the profession. The first and most popular one seems to be a modification of the method of Prof. Witzer, of Bonn, who proposed, after having reduced the hernia, to obliterate the canal by causing its opposing serous surfaces to adhere. With a view of causing the inflammation necessary to secure this end, various expedients have been tried. Prof. Witzer practiced invagination of the hernial sac. The Kansas City quacks use subcutaneous injections of carbolic acid and ergot, followed by pressure. In a few days the inflammation seems to subside and the hernia does not, for some reason, appear for a time. Prof. G. C. E. Weber, of Cleveland, who was Witzer's best student, and his clinical student at the time these experiments were had, does not think well of the operation, "having observed," he states, "that in every case under observation the hernia returned in a short time." In a single instance that has come within my knowledge, the hernia has not returned after a period of three months. It is evident that the scheme is not devoid of danger. The second method seems to me to be even more hazardous, although it may possess the merit of being a trifle more scientific. It is founded upon the hypothesis that in cases of strangulated indirect inguinal hernia, when ulceration or sloughing of the intestine takes place at the most projecting point of the knuckle, thus forming an artificial anus, recovery may be expected in a majority of patients. The operation thus implies, as a first step, strangulation, after which speedy ulceration may be induced at a favorable point remote from the stricture. The surgeon may heal the artificial anus at his leisure. It need hardly be remarked that the conservative surgeon will not fall violently in love with this procedure.

"Faith without works is dead." A surgical report without an accompanying record of cases is as incomplete as a single number of a serial periodical:

1. A young man, twenty-five years of age, a mechanic in the railroad shops of this city, rather suddenly discovers a tumor in his left groin. The family physician is hastily summoned, and after mature deliberation, pronounces it a case of hernia, prescribes the dorsal decubitus, an opiate, and refrigerant applications, until the hernia shall be reduced. This treatment is faithfully persevered in for a period of *three weeks*. Finally another physician is called in, who, greatly to the horror of the patient, thrusts a bistoury into the hernia. The patient makes a speedy recovery. No difficulty in getting a venereal history from this patient.

2. About a year ago I was called at midnight to a patient whose difficulty had been some hours previously diagnosticated as strangu-

lated hernia, by a somewhat noted local surgeon, who had been in attendance, and who had exhausted the prescribed methods of reduction without success. When I saw the patient the parts were so disfigured by swelling and ecchymosis—which had already extended from the umbilicus to the anal aperture, and which was consequent upon the vigorous and exceedingly conscientious taxis which had been employed—that a diagnosis was no longer certain. A hastily improvised consultation was held, during which the lamented anatomist, Gray, cut no inconsiderable figure, and the somewhat noted local surgeon proposed herniotomy, which, for the present, I declined, owing to the absence of facilities, etc. Early the next morning, in the presence of seven physicians, the patient was anæsthetized, and reduction by taxis again attempted. The result was only an increase of the ecchymosis, although part of the assembled company held at the time that something had been accomplished, and that some sort of a reduction had actually been effected. A stimulating enema was given, and measures were taken to control the inflammatory trouble. I must here do the noted local surgeon justice by stating that he still insisted upon an operation. A day or so later I derived an interesting bit of information from the patient, who was a highly intelligent gentleman of 56 years of age, which would have been valuable at an earlier date. He remarked, while reflecting upon the severity of the treatment he had undergone, that "'twere far better to have no testicle at all than to suffer such discomfort. I am very glad that I never had but one testicle." Upon further inquiry I discovered that the man had an undescended testicle, which was at the mouth of the external ring; that it had frequently become highly inflamed, and that he had in his own judgment considered it a rupture, and had been in the habit of wearing a truss. The patient died on the ninth day, of acute general peritonitis, induced by the too conscientious taxis of an orchitic non-descended testicle. I do not consider that any special merit is attached to our method, and I do not relate this case in the hope that any of you gentlemen may be induced to follow our example, but rather to show you that a testicle not descended may be mistaken for a hernia.

Since the above was written, I have obtained some knowledge of the methods and means employed by Dr. Joseph H. Warren, member of the American Medical Association, who is an ardent advocate of the subcutaneous injection. He uses the following composition as a means of obtaining sufficient and safe inflammation to produce plastic adhesions: "Evaporate the fluid extract of oak to about the consistency of glycerine; add sufficient absolute alcohol to reduce its bulk one-half; then add one-half a drachm of sulphuric ether to the half-ounce of fluid; add two grains of morphia. The syringe should have a round and blunt-pointed spiral needle, which revolves in penetrating the tissues, thus securing the safety of the blood-vessels and nerves. The openings are in the sides of the needle." This method is attracting some attention.

A CASE OF HEART DISEASE.

BY G. BOYD, M.D., NEWTON, KANSAS.

It was your pleasure at our last meeting to assign me a paper on "The Recent Advances of Chemistry." For this subject I beg leave to substitute another, as I have, within the last two weeks, obtained what I call a valuable anatomical specimen; and, as cases from actual practice are always more instructive and better appreciated by the general practitioner than a compilation of theories and experiments of chemists, I will therefore endeavor to offer a few remarks on a case of heart disease that was under my care for the last year.

The term "heart disease" is one that is known by the public and received by every one as implying a disease that is incurable, and is used a great many times by the physician in order to cover up his ignorance as to the true cause of his patient's suffering. I will frankly admit that it is no easy task for the inexperienced practitioner to locate the different lesions of the heart; yet we have positive signs and symptoms whereby the physician, who has made himself familiar with them, may arrive at a correct diagnosis.

Flint says: Auscultation, indeed, enables the physician to determine the existence, the seat, and the character of valvular lesions long before they have occasioned any apparent morbid effects of which the patient is conscious. The organic diseases, or structural lesions, to which the heart is liable, relate first to the valves and orifices, and second to the walls of the organ.

Valvular lesions, in a great majority of cases, are seated in the left side of the heart, being either mitral or aortic, or, in both situations, indicated by these terms. There may be obstructural or regurgitant lesions, or both may be present; there may be morbid thickening or attenuation, calcification (formerly called ossification), rupture of the valves, etc.

These lesions may also be present in the right side of the heart. Owing to the congestion of the lungs induced by obstruction and regurgitation at the mitral orifice, the changes in the blood effected by respiration are impeded, whence the sense of want of breath which, in certain cases of disease of the heart, is a source of great distress.

An effect of the persistent pulmonary congestion caused by mitral lesions is an over-accumulation of blood in the cavities of the right side of the heart, and from this effect follows general dropsy.

Aortic lesions interfere especially with the circulation throughout the arteries of the system, the immediate effect of which is to keep the left ventricle over-distended with blood.

I will endeavor to be as brief as possible, yet I must give you the history of this case that you may fully understand the nature of it.

My attention was first called to this case about one year ago, though an order from the Pension Department for an examination. I gave my report at that time, and a diagnosis of enlargement and hypertrophy with mitral insufficiency.

Last August I was called in great haste to see Mr. B., who had been attacked as suddenly as though shot, while riding in his buggy, with an intense pain in the left side of the head, extending backward in the occipital region. I found him with a general tremor all over his body, with an occasional twitching of the muscles of the face, with a drawing of the head backward, accompanied by a partial inability to speak. This pain continued for some two months, accompanied by severe hemorrhage from the nose every few days, when, during a severer attack of pain, he had complete hemiplegia of the right side, with total loss of speech.

Strange to say, in about seven weeks he had so far recovered from this severe paralysis as to be able to walk across the room, as well as to speak.

At this time I obtained a full account of his previous life. I learned that he had been a soldier, and had undergone all the horrors of Andersonville for over a year, suffering from chronic diarrhea, general dropsy and scurvy during this time. I also learned that he had been sick since then with pneumonia, inflammatory rheumatism, and supposed kidney disease.

During this time his pulse ranged from ninety to a hundred and twenty; breathing, short and quick.

On auscultation, I found there was a bellows murmur with first sound of the heart, which was prolonged; also a very loud, metallic tinkling sound at the apex. The apex-beat was low down in the sixth intercostal space, and to the left. The heart-sounds were also heard very distinctly on the right side. There were no inspiratory murmurs in nearly the whole of the right lung, except a small breathing surface at apex. Left lung was very good, but on percussion there was dullness over a large area, and extending well down on left lung and around under the arm. The right lung, on percussion, also gave dullness over nearly the whole extent.

Observation showed that the left breast was, on actual measurement, one inch the larger above the nipple, and that he had a cough with but little expectoration.

These symptoms were present in my patient. I ask, what do they teach us? What condition might we expect to find? What might most likely be the structural changes in the heart and lungs? I answer, we would at once know that there was organic disease of the heart and lungs; and, in this specimen, we have the anatomical changes that were

diagnosed, during life, in the heart, although the disease was more extensive than was possible to detect. We have the diseased mitral valve with its calcareous deposit; we have the same deposit, almost occluding the aortic orifice, with the entire destruction of the semi-lunar valves. We have the attenuated walls of the two auricles and the right ventricle. We have hypertrophic condition of the left ventricle; we have the thrombi or fibrinous clots that were found in the right ventricle; we have the increased length and weight of the heart, this being six inches long, and weighing fourteen and three-fourths ounces.

I regret to say I did not save the pericardium, as there was pericarditis, with some eight or ten ounces of effusion; there were also extensive adhesions of the pericardium to the surrounding parts.

These morbid conditions make this a valuable specimen, and especially valuable to me, individually, as it was a legacy left me by a dear friend, who had great respect and love for me, and who was ever willing to lend a helping hand to science, and benefit suffering humanity.

This is the heart whose every throb was full of pain, yet its owner was ever cheerful and full of merriment. This is the heart that sent the life-sustaining blood through the brave soldier, as he fought the great battles for freedom and human liberty.

With all honor to this piece of clay, and with loving sorrow for the dead, I pray God that He may give such a noble soul a place at His right hand in His glorious kingdom.

RECENT ADVANCES IN OPHTHALMOLOGY.

BY DR. B. E. FRYER, U.S.A., FORT LEAVENWORTH, KANSAS.

Progress in ophthalmology, during the past year, has been, as was the case at our last meeting, more abundant in elaboration and modification, than in bringing into notice much that is new. The numerous busy workers during the past year have had opportunity and have taken advantage of it in testing and giving a correct rating as to the value of many previous discoveries.

In the following paper I shall give, in the main, points of most interest to you as general practitioners. And first, in reference to ophthalmic surgical procedures.

The operation of sclerotomy, as a substitute for iridectomy in glaucoma, would seem to be growing into good repute, and several operators report very favorable results.

J. Hock, of Vienna, (in Knapp's Archives of Ophthalmology No. 3, vol. IX,) reports eight operations, with the following conclusions: In

chronic inflammatory glaucoma, sclerotomy rendered the tension normal, the media clear and increased, vision in one case from $\frac{1}{100}$ to $\frac{1}{10}$. L. E. from $\frac{7}{200}$ to $\frac{10}{200}$. Seven months later, when last seen, the same good condition was still present.

Hock further adds that "iridectomy could scarcely have done as well." In one case of absolute glaucoma (both eyes), the pain was removed by sclerotomy, the ocular tension diminished, and the patient's eyes were saved from glaucomatous degeneration. "The operation achieved all that could be expected."

In two cases of simple glaucoma, where iridectomy is of the least benefit, the disease was arrested in both cases, with retention of the vision had before the operation in one of the cases, and in the other a marked improvement of sight.

Hock considers the Wecker-Mauthner procedure in sclerotomy as of risk, and he states that in future he will operate, as he did in one of the eight cases, with two lance-shaped stop knives, instead of the usual Graefe knife. Hock uses double fixation. The effect of the operation, Hock says, as also is the idea of Schnabel, that the amount of reduction following sclerotomy is not so great as from iridectomy, but as he justly adds, the object is not to reduce the intra-ocular tension to the minimum, but to lower it to one which will allow the normal nutrition and work of the eyeball to go on.

My friend Dr. Knapp, of New York, reported in a paper before the American Ophthalmological Society, last year, eight sclerotomies in six cases. His conclusions were, that sclerotomy may be substituted for iridectomy, in cases of megalophthalmus congenitus, simple chronic and subacute glaucoma, and he even considers it legitimate in cases of acute glaucoma.

Landesberg of Philadelphia, in the *Medical Times* of October 9, 1880, reports thirty-five sclerotomies for glaucoma, as follows: 7 cases of glaucoma, simplex; 10 of subacutum; 2 of acutum; 1 of fulminans; 5 of inflammatorum chronicutum; 10 of absolutum. He concludes as follows:

"The facts show that sclerotomy shares with iridectomy the fact of diminishing the intra-ocular pressure, checking the glaucomatous process, and securing a certain restitution of the function of the eye. Certainly the aim is not always attained, and sclerotomy shares with iridectomy its failures. The very great advantage which sclerotomy has over iridectomy consists in this, that by leaving the iris intact, the operation is not accompanied with so many drawbacks (impaired vision, dazzling, etc.,) as present themselves in iridectomy. Which role sclerotomy will play in the therapeutics of glaucoma — whether it will totally supplant iridectomy, or limit only the indications for the operation — the future alone can tell, when a truer insight into the nature of glaucoma will enable us to decide upon the best method of treatment. For the present, summing up the results of my observations, I do not hesitate to put forth sclerotomy as the first indication in the following conditions:

"1. In glaucoma absolutum.

"2. In secondary glaucoma, and in glaucoma-like conditions of the eye, as observed in iritis, serous choroditus, in certain forms of keratitis, etc.

"3. In all cases of glaucoma, in which iridectomy has been made, and the reappearance of the glaucomatous process necessitates the repetition of the operative procedure."

Bowman, at the International Medical Congress in Amsterdam (1879), stated that he considered sclerotomy as preferable in many cases of glaucoma, but he leaves it undecided as to which kind.

Von Wecker, of Paris, who is the originator of sclerotomy in glaucoma, at the Congress Montpellier, and International Congress in 1879, and also at the meeting of the British Medical Association at Cork, gave an admirable résumé of his ideas and experience in reference to this operation, and I will give a brief synopsis of these.

He states that at first he confines sclerotomy to those cases of absolute glaucoma with atrophic iris, where iridectomy would have been illusory.

In the second place, he believes sclerotomy might be preferred in the hemorrhagic form, and where Graefe himself had feared iridectomy, so disastrous were its results.

Since these recommendations, Wecker has experimented more extensively with sclerotomy, and has gradually extended its indications.

In his Chirurgie Oculaire, Wecker recommends sclerotomy:

"1. In the incipient stage of glaucoma, when in the interval of attacks, V is normal.

"2. In cases of simple glaucoma, in which both central and periperal V are normal."

He recommends sclerotomy:

"3. When in simple glaucoma, the margin of the visual field, even at the side, only touches slightly, or comes very near the point of fixation."

Every clinicist being aware that in such cases the iridectomy is followed by a further diminution in the field of vision which may deprive the patient of central vision, a danger not to be feared with sclerotomy.

Wecker now has included, as among the conditions indicating sclerotomy, cases of irritative glaucoma, in which myotics change the condition of the disease into the simple form, and in which there is a marked effect produced by eserine. He would at present reserve iridectomy in glaucoma only for attacks of the acute glaucomatous condition, and also for the irritative forms in which the tension will not allow of any effect from myotics.

Von Wecker has done forty-eight sclerotomies since 1879. He insists that sclerotomy needs great care in its performance, and has now returned to the use of the narrow Graefe cataract-knife in the operation. He makes with the knife a puncture and counter puncture at exactly one millimeter from the corneal border, and makes a flap from three to four mm. in height, and leaves about one-third of sclera between the points of puncture and counter puncture undivided. Wecker is a strong advocate of sclerotomy. He uses, as most of the operators do, instillations of eserine both before and after sclerotomy.

It would seem to me that in many cases, when it is desirable to permanently reduce intra-ocular tension as a cure for glaucoma, that sclerotomy offers a safe procedure in the treatment, and while it has some drawbacks, it offers several advantages over iridectomy. Of these advantages may be mentioned the preservation of a circular pupil, and absence of risk of entanglement of the stump of the iris, and its healing in the incision, so frequently the case after iridectomy.

I believe with Hock, that the technique of the operation of sclerotomy would be safer if double fixation is had, and two lance-shaped knives are used. Sclerotomy may well be done, too, in the treatment of some of the forms of corneal ulcer, especially in those which threaten a rapid spread.

OPTICO-CILIARY NEUROTOMY.

At the last meeting of our Society I described this operation, and spoke of it as having been presented as a substitute for enucleation of the eyeball, for the prevention of sympathetic involvement of the fellow eye. After giving the opinion of several ophthalmologists, I stated (see Transactions of 1880) that "from the fact that, until recently, comparatively the operation has not been numerously performed, and as we know that sympathetic ophthalmia has occurred as long as twenty-six years after an injury, we think it too soon to positively and unqualifiedly adopt this operation."

Since my last report, quoted above to the Society, several oculists have published further operations and results, and a number of facts in reference to the procedure have become known, which deserve our consideration.

In the case of Mauthner-Iager, in which the optic nerve was divided, it was found later to have become reunited. The sensibility of the cornea, in a number of cases reported by Scholer and others, was sooner or later partially or completely restored. In the Berlin Klinische, Wochen Schrifte for May 3, 1880, Herschberg gives a case in which a prominent oculist had made two successive neurotomies for an iron splinter lodged in the eye, but within a year the eye had again become painful and tender to the touch in the ciliary region, making enucleation necessary.

Several unfortunate cases are reported in the *Annul d'Ocul.* for March and April, 1880. In one, the whole cornea sloughed, simulating a condition of semi-paralytic ophthalmia. In another, following the operation, purulent destruction of the whole globe, and retrobulbar abscess with a total symblepharon of the whole lower lid to the wasted eyeball. The sight of the better eye improved, however, but as the observer has it, "mais le desastre au point de vu esthetique fut complet."

My friend Dr. Knapp, of New York, in No. 2, vol. 9, of his Archives, gives a very interesting paper on the "further observations on optico-ciliary neurotomy and neurectomy." After speaking of the unfortu-

nate results of the operation which I have just given, he goes on to say that these experiments are certainly not very pleasant, and will probably have the effect of restricting the indications for the operation to a smaller latitude than was assigned it by Scholer and Schweigger, who stated that the operation was destined to replace enucleation in all cases except malignant tumors. The worst feature of the operation, and the one most dwelt upon by its adversaries, is the partial or total return of sensibility in the cornea, and even tenderness on pressure upon the ciliary region. Of course all this would indicate a more or less complete reunion of the divided nerve, including the ciliaries. Schweigger suggests to obviate it by an extensive neurectomy, and this he has done several times. His method is to divide the conjunctiva vetrically at the insertion of the int. rectus; then two catgut sutures are passed through the muscles posterior to its insertion, and tied so as to retain the muscle, the tendon of which is then divided, and the muscle dissected from the sclera. A double hook holds the sclera near the equator, and the cornea is rolled outward, both of the oblique muscles are divided, and the whole of the posterior half of the eyeball is rotated forwards, and the tissues on the sclera divided. This allows of a complete division of the nerve, and removal of a portion of it, and insures the division of all the ciliaries. The operation is completed by re-attaching the divided inter. rectus. Schweigger states that after the operation the cornea is insensible, except its peripheral zone, which latter probably receives nerves from conjunctual branches.

Herchberg states that Cuveilher discovered that two or three ciliary nerves pierced the sclera under the recti muscles; one of these might escape division in the operation.

Knapp, in the paper mentioned, gives a description of six cases in which he did optico-ciliary neurectomy. His method of operating, I believe, is probably more efficient, and as it is quite as readily done, I will briefly give it. He makes a meridianal incision between the upper and internal recti, and the tendon of the latter is divided. The optic nerve is seized in a curved Langenbeck ligating forceps, and cut between the forceps and optic nerve entrance to the eyeball; the eyeball and the whole posterior half as far as the equator carefully and equally trimmed; the eye is rotated into position, and the divided tendon reunited, and the conjunctival wound closed with a suture.

The advantage of this method is, that holding the nerve in the forceps after its division, it allows of removing as much of it as is desired.

As yet it is probably too soon to decide and permanently rate the effect of optico-ciliary neurotomy, or of the modification of the operation, which now includes an exsection of a portion of the nerve. It may be found that with this latter precaution, all sympathetic risk

is done away with, though it will require further time to decide beyond a question as to whether as absolute safety can be promised in optico-ciliary neurectomy as with enucleation.

It might be tried in those cases where enucleation is rejected, probably offering the only alternative. It may be found, and my own idea is, it will, and probably be so decided, that a carefully and completely performed optico-ciliary neurectomy will offer absolute safety from sympathetic opthalmia.

CORNEAL GRAFTING.

Von Wecker, of Paris, in his excellent work, "Therapeutique Oculaire," calls attention to this subject, and as a measure of more frequent applicability in complete leucomata corneæ than has been heretofore supposed. He says: "When the cornea is occupied in its totality by a cicatrix; when an adherent non-staphylomatous leucoma exists; when, after complete ulceration of the cornea, the lens has escaped from the globe, and when no glaucomatous complications have weakened the functions of the eye—then in all such cases, if the same lesions be present in both eyes (as is frequently observed, consequent in purulent ophthalmia), there can be no doubt that every effort should be made to restore to such unfortunate persons a part, however small, of the vision they have lost."

He uses a spring trephine, and with it takes out a portion of the opaque cornea, and replaces it with either a section from a freshly enucleated human eye or an eye of an animal.

In some instances these grafts have adhered, and have permitted a moderate amount of light-transmission.

Wecker concludes by saying: "We have no right in these cases to refuse to any the slightest aid to sufferers who have but this one remaining chance of recovering any little sight, neither should we be deterred by the reproach of eccentricity, which will most certainly be leveled at anyone who shall attempt to graft a cornea."

Dr. I. R. Wolfe, lecturer on Medicine and Surgery in Anderson's College, Glasgow, has operated very successfully for a larger corneal transplantation, and in a very unpromising case of complete corneal opacity.

His method I will describe and illustrate. He dissects up from the nasal side of a nearly triangular-shaped piece of conjunctiva to the cornea, and on the temporal side does the same, turning both these flaps over on the cornea; then with a curved lance-head stopknife incises the cornea externally and internally as I show you here; then a double-grooved director is carefully passed in through the opening and across the anterior chamber out at the second opening. A double-bladed knife fitting the grooves is passed along these grooves and a portion of the cornea removed.

Previously having done this on an eye with a clear cornea, but which

needed enucleation, the flaps or grafts having been laid in tepid water ready, is now placed in position and stitched there by two or more sutures in the conjunctiva. The results of this one operation reported by Dr. Wolfe were very good, enabling the patient, who previously only had a slight perception of light, to see well enough to place a ring on the extended finger of the operator.

I will describe the instruments fully. [The operation was fully described by aid of blackboard diagrams.]

I have ordered a set of these instruments, and having two or three cases suitable and ready for the operation, I shall operate when a proper eye presents itself for enucleation which can furnish the grafts.

REMOVAL OF PARTICLES OF STEEL AND IRON FROM THE VITREOUS BY THE AID OF MAGNETS.

Several reports of cases have been made during the year of the successful removal of fragments of iron and steel from the vitreous humor by the aid of magnets. In my report to the Society last year I referred to an admirable magnetic instrument for the purpose, the invention of my friend Dr. Gruening, of New York. Since then Dr. H. S. Opperheimer, of New York, in the New York *Medical Record*, November 13, 1880, has reported a case in which the instrument of Dr. Gruening was successfully used in extracting a scale of iron from the vitreous. In this case there was not a particle of vitreous lost, and the wound healed, per primam, and with a $\frac{20}{100}$ vision. It was impossible to discover the location of the iron by ordinary means, and of course without the magnet it would probably not have been removed.

In a clinical lecture (with cases) on foreign bodies within the eye and on the electro-magnet as an aid to their detection and removal, by Mr. Macdonald McHardy, Professor of Ophthalmology to King's College Hospital, London, and published in the Boston *Medical and Surgical Journal* for March 10, 1881, there will be found much of interest on this subject, and worth the reading by all interested who are liable to have to treat injuries of this nature.

Dr. H. W. Bradford, Assistant Surgeon at the Massachusetts Charitable Eye and Ear Infirmary, published in the Boston *Medical and Surgical Journal* for March 31, 1881, a description of a new magnetic instrument for the purpose, and with an admirable and elaborate paper on the whole subject. He gives an account of four cases in which his instrument was used. [This magnetic instrument was exhibited to the Society, and described.]

Knapp, in his Archives of Ophthalmology, No. 2, vol. IX, reports a case of removal of a particle of steel from the vitreous by the aid of a magnet.

When it is considered how dangerous not only to the usefulness of the injured eye, but also from its being an additional cause of sympathetic risk to the injured fellow, the presence of a foreign body is, it is

readily understood how eagerly we should take advantage of everything in the way of an additional aid to the safe removal of these foreign bodies from the interior of the eye. For when they remain within the eye, they almost invariably cause more or less destruction, and even when removed there is no certainty of their not doing so; but heretofore their removal has been not only a matter of great difficulty, but one also adding and increasing the risk of destructive work.

My friend Dr. F. R. Pooley, of New York, has made some very satisfactory experiments in reference to deciding the presence and location of fragments of either iron or steel in the eye by the aid of small suspended and easily movable magnets, and he publishes a preliminary paper on the subject in Knapp's Archives of Ophthalmology, in vol. IX, No. 2. In No. 3, of same volume, he publishes in full his experiments, which are very valuable and interesting. He draws the following conclusions:

"1. The presence of a steel or iron foreign body in the eye, when of considerable size and situated near the surface, may be determined by testing for it with a suspended magnet.

"2. The presence and position of such a foreign body may most surely be made out by rendering it a magnet by induction, and then testing for it by a minute suspended magnet.

"3. The probable depth of the inclosed foreign body may be inferred by the intensity of the action of the needle near the surface.

"4. Any change from the primary position of the foreign body may be ascertained by carefully noting the changes indicated by the deflection of the needle."

Of new remedies in ophthalmic medicine and surgery, I will mention first, homatropinum hydrobromatum, a new and quickly acting mydriatic. This drug is the discovery of Prof. Ladenberg, of the University of Kiel, who presented it on the 8th of August, 1879, to the Berliner Academie der Wissenchaften. "Chemically it is an oxytoluyltropein. and is produced by the treatment of amygdalinate of atropin by hydrochlorid acid." Prof. Wolckers, of Kiel, tested it in his ophthalmic clinic, and reports that he found that a one-per-cent. solution dilated the pupil in about ten minutes, but in the greater number of cases not ad maximum; "often a slight reaction of the pupil remained. The accommodation is also paralyzed, but not so completely as by atropin. Already in six hours has the action of the homatropin considerably passed off, and after twelve to twenty-four hours every trace of mydriatic action and paralysis of accommodation is gone."

He believes that homatropin will replace atropin in "cases where it is necessary to dilate the pupil for the purpose of making a thorough ophthalmoscopic examination of the fundus," etc.

After this discovery by Prof. Ladenburg, Mr. E. Merk, chemist of Darmstadt, made the salt, some of which he sent to Prof. V. Arlt, in Vienna, for use of which he (Arlt) handed to his assistant, Dr. E. Fuchs, for trial, who gives his examination thereof in the June number, 1880,

of the *Centralblatt fur Praktische Augenherlkunde*, as follows: "My experiments were made on a number of healthy persons, and in one eye a one-per-cent. solution of homatropin was instilled, while in the other a solution atropin (1.5,000 and 1.10,000) was dropped. The accommodation and enlargement of the pupils were at first examined every five minutes, and further on, every two hours. The experiments gave the following results:

"1. The one-per-cent. solution of homatropin caused a dilatation of the pupil in twenty minutes, which reached its maximum in sixty to seventy minutes." The pupils were then 7 mm. and over in diameter, but still not as large (well dilated) as where a stronger solution of atropin was used; there was also a slight ability of reaction remaining. After two or three hours the action began to recede, and after five hours generally nothing was noticeable. After ten or twelve hours there was not the least trace of dilatation; in some cases the pupil was smaller than before the instillation. This is also sometimes observed after the discontinuance of instillations of atropin. In comparison with a weak solution of atropin, (1.5000 or 1.10,000,) the action of these strengths was almost the same; the dilatation of the pupil began ten minutes later than with the homatropin. After twelve hours the mydriasis is very perceptible, particularly when comparing it with the other eye in which homatropin had been instilled, and especially when the pupil is frequently smaller than before the beginning of the examination.

"2. The paralysis of the accommodation begins ten or twenty minutes after the instillation of the homatropin, and reaches its maximum in forty to eighty minutes. It was like the dilatation, never absolute; in one case there was still $\frac{1}{8}$ D remaining. After five hours the paralysis of accommodation had passed entirely away; in some cases the near point approached nearer than it was before the instillation." After the use of a weak solution of atropin, the paralysis of accommodation begins in about the same time as with homatropin, but reaches a much less degree, and passes off as quickly as when the homatropin is used. "Also here a recession of the near point for a short time after the paralysis of accommodation had passed away, could be observed. The comparison of homatropin with atropin in weak solution gives, in relation to the accommodation, hardly a difference; but as to the dilatation of the pupil, the action begins earlier and passes off sooner than with atropin. Herein lies the superiority of the homatropin, when it is desired to dilate the pupil for ophthalmoscopic examination. Generally after five hours the pupil has its normal size, and the patient has no further trouble."

My friend Dr. H. S. Schell, Surgeon to Wills Hospital, Philadelphia, in the Philadelphia *Medical Times* for October 9, 1880, has an excellent paper on homatropinum hydrobromatum, and his conclusions are as follows:

"1. Homatropinum hydrobromatum is not well adapted to the treatment of inflam-

matory or traumatic affections of the eye, on account of the conjunctival irritation it produces.

"2. It is especially adapted to the production of that temporary dilatation of the pupil and paralysis of the ciliary muscles which is so often required in examining the condition of the refraction.

"3. The best solution to use is one containing sixteen grains to the fluid ounce of distilled water. From one to five drops of such a solution may be required to produce the desired effect, according to the strength and activity of the ciliary muscles.

"4. Under the influence of a full dose, the pupil attains its maximum dilatation in about twenty minutes.

"5. With a full dose the accommodation begins to fail in about ten minutes, and is usually totally suppressed in a half-hour, although exceptional cases may require an hour. . . . This total suppression lasts about three hours; the accommodation then gradually recovers itself, and is fully in action again at the end of from ten to thirty hours from the time of the last instillation.

"6. The local action of the mydriatic is not accompanied by any unpleasant effects upon the general system."

It will be seen from the conclusions derived from these experiments, that homotropinum hydrobromatum will be mainly useful for the purpose of producing quickly a dilatation of the pupil for opthalmoscopic examination, and for producing paresis of accommodation, especially in the aged. For from the quickness with which the effect is produced, and the rapidity with which this effect passes away, but little inconvenience results, and the dangers of producing glaucoma, which may follow the effect of either atropia or duboisia, are much reduced. An oculist will generally hesitate to dilate a pupil with duboisia or atropin, for the purpose of examining the periphery of the retina in old people when he fears glaucoma, and may have to be satisfied with a more central examination; with the new mydriatic this danger is certainly diminished, and of course this applies also as to the necessity of a mydriatic application in cases of accurately testing the degree of ametropia, as well or rather more, for it is very rare that in ophthalmic examinations we have to dilate the pupil in the investigation with the opthalmoscope.

Hyocyamine sulphate has attracted some attention as a mydriatic. It is somewhat like duboisia in its action, but possesses no advantage over the latter.

Dr. C. Allen Lambert, Surgeon to the Goshen (Indiana) Eye and Ear Infirmary, publishes a very interesting paper on ophthalmia purulenta gonorrhoroica and neonatorum, with cases, and suggests what has been almost a specific in his hands, a solution of chloride of zinc.

His formula for ophthalmia purulenta gonorrhoroica is :

R.—Morphia sulph., gr. 3–5.
Zinci chlorid., gr. 2–6.
Aqua rosa, qtt. X.
Aqua dest., foz. I.

In ophthalmia of the new-born, he says the remedy should be much weaker. Dr. Lambert concludes as follows : "Zinci chloridi seems to act as as a specific remedy, changing the thick, creamy discharge to a

thin, muco-purulent one, and seems to destroy the specific virus. After the second or third application the discharge, if not entirely, nearly ceases, and the swelling of the oc. and palp. conjunctiva passes rapidly away. The patients do not complain at all of the treatment, and in fact it proves a boon to them, and they are anxious for it. The remedy seems to act at once to prevent or arrest the breaking down of the corneal and other tissues. We have had fortunate results in all the cases, and especially so where the patient was seen at the very outset of the attack. We are forced to the conclusion that, upon trial, this course of treatment will prove as successful in other hands."

If the chloride of zinc solution will always produce the effect claimed, in the treatment of gonorrhœal ophthalmia, it will be a great gain, for at best the treatment heretofore generally adopted is very unsatisfactory, and very frequently its results are unfavorable.

In opthalmia neonatorum I have found by keeping the pus washed away continuously, the brushing of the everted lids with a five-grain solution of nitrate of silver once a day leaves little to be wished for in the way of improvement in the result.

If zinc chloride solution will, as is claimed by Dr. Lambert, destroy the specific poison of the pus, which is undoubtedly the cause of destruction of the cornea, it would be very advantageous; but it would seem that a safer mode of applying the zinc would be to brush it over the everted lids, and not to drop it into the conjunctival sac. As a rule, a strong caustic should. according to my experience, never touch the cornea.

QUINIA AMAROSIS.

My friend Dr. E. Gruening, of New York, publishes a very interesting and carefully prepared paper on Quinia Amarosis, in No. 1, vol. X, of Knapp's Archives.

Gruening gives the bibliography of this subject. which includes eleven cases (one by Giacomini) in 1848, never before cited, which is quoted by Binz in the Real Encyclopedia, der Gesammten Heilkunde, and fully and thoroughly describes a case of his own. The care with which Gruening in his own case has eliminated every other etiological factor than the quinia, places the productive cause of the amarosis beyond all reasonable doubt. The patient Gruening saw in consultation was quite feeble, and had taken ten-grain doses of quinia until eighty grains were taken in thirty hours.

Shortly after taking the last ten grains, the patient (a female) had a convulsive fit, characterized by twitching of the facial muscles and jerking of the upper extremities, but did not, her family medical attendant stated, lose consciousness, as during the attack she replied rationally to questions. When the attack had passed, she was found to be totally deaf and blind. Gruening saw the patient twenty-four

hours after this, and though she had partially recovered hearing, she was still totally blind.

"An examination of the eyes showed the pupils dilated admaximum and without either direct or consensual contraction. Accommodative contraction, however, was clearly demonstrable when the patient was caused to make a strong convergent effort. The refractive media clear in both eyes. The optic discs were very pale but transparent, and their outlines well defined. The retinal vessels, both arteries and veins, so attenuated that in the inverted image they could scarcely be perceived. In the upright image, the vessels were distinguishable as continuous, exceedingly narrow bands tapering into fine points somewhat abruptly. The slightest pressure upon the eyeball sufficed to render all the retinal vessels absolutely bloodless. At the macula of each eye there was a cherry-colored spot, surrounded by a zone of bluish-gray opacity; the cornea were not anæsthetic (case of Voorhies); the blindness was absolute. The bright light of an argand lamp, concentrated upon the eye by means of a convex lens, was not perceived. No phosphenes by pressure, no specific reaction of the optic nerve by the galvanic current. Temperature 101½ degrees, pulse 120; very feeble. The patient was exceedingly pale, and was perfectly rational at the time of the examination. She complained of no pain, and requested me to speak in a louder voice, as the constant noise in her head interfered with her hearing. She heard my watch in contact with the auricle. The tympanic membranes were not injected. The urine contained no albumen. I was guarded in my prognosis, stating that if the blindness depended upon the action of quinine, as I thought it did, sight would most probably be restored, there being no case of permanent blindness from quinia on record. Inasmuch as the palpable cause of blindness was found on the retinal ischæmia, the therapeutic agents were necessarily directed toward the reestablishment of retinal circulation. A generous diet, a recumbent position (the head on a level with the body), instillations of a one-per-cent. solution of sulphate of eserine, inhalations of nitrate of amyl, together with the administration of digitalis, were among the measures employed by Drs. Adler and Hoffman, the attending physicians. Under the influence of eserine, the pupils became contracted, and remained so for about three hours after each instillation. Dilatation, following the contraction, never reached as high a degree as previously, the pupils remaining fixed in a state of moderate dilatation.

"On July 5th, eight days after the supervention of blindness, Dr. H. Knapp examined the patient, and agreed with me in considering her case one of quinia amaurosis. At that time the ophthalmoscopic condition had changed somewhat the circum-macular retinal opacity, and the cherry-colored spot at the macula having disappeared. The optic discs and the retinal vessels had undergone no change. The pupils were moderately dilated (the eserine having been discontinued for twenty-four hours) and fixed, except with efforts of convergence, when a slight contraction was noticeable. On July 19th the patient could discern the position of the window in the room. Upon examination it was found that she had quantitative perception of light in both eyes. The next day I was chagrined to discover that the perception of light had disappeared, and upon inquiry learned that the patient had been sitting up for three successive hours. I enjoined upon her the necessity of lying quietly upon her back, with her head below the level of her body, if possible.

"On July 22d perception of light had returned. A few days later she menstruated, and during that period again lost the quantitative perception of light. This she regained after the lapse of a few days, and in the following weeks her sight improved considerably, so that on August 16th, about seven weeks after the attack, she could see to count fingers with either eye at a distance of four feet. At the next menstrual period her sight diminished somewhat, but after that time improved steadily.

"On August 30th she read the ordinary type of the *Gartenlaub* with + 3 D, her hypermetropia being 3 D. The letters, however, appeared white to her on a black ground. She was totally color-blind, and said that objects appeared to her as if photographed.

"On September 23d she came to my office, and I then made a thorough examination of her eyes. The pupils moderately dilated (no eserine), without any direct or consensual reaction, but contracting with accommodative efforts; refractive media, clear; the optic discs still very pale, but transparent; the retinal vessels, both veins and arteries, filiform; with + 3 D her sight is 20–20, and she reads Snellen 1¼ with either eye; her fields of vision are concentrically limited; the visual field of the right eye measures 30 deg. on the temporal side; does not extend to 20 deg. in any other direction; the field of vision of the left eye is still more contracted, extending to about 18 deg. on the temporal side, and not reaching that extent in the other directions; on Snellen's color chart she recognizes no colors—all the letters appear gray to her, but the yellow letters are much lighter than the others; in the spectroscope she sees only a number of gray stripes of different shades.

"On November 8th I again examined her, and found her fields of vision slightly enlarged and her color sense improved. On Snellen's chart she calls the red brown, the yellow yellow, the green gray, the blue blue, the gray gray: in the spectroscope she sees the spectrum of the sky, yellow and blue.

"At the last examination which I made, December 28, 1880, the color perception had still further improved, and she was able to distinguish the four fundamental colors —yellow, blue, red, and green, the two latter, however, only when presented in large surfaces; the chromatic sense, therefore, was not yet perfect."

After carefully considering and eliminating beyond all reasonable question any other cause than the quinia, Gruening concludes:

"On reviewing the unequivocal cases of quinia poisoning with amarosis (Roosa, Wecker, Voorhies, Gruening) we find a remarkable congruence in their essential features.

"The patient, after the ingestion of a single dose, or of repeated doses of quinia in varying quantities, suddenly becomes totally blind and deaf. While the deafness disappears within twenty-four hours, the blindness remains permanent as regards peripheric vision, central vision gradually returning to the normal after some days, weeks, or months.

"The ophthalmoscope reveals an ischæmia of the retinal arteries and veins without any inflammatory changes.

"In view of the constancy of these symptoms and the uniformity of the opthalmoscopic picture, we are entitled to demand for this distinct type of amarosis a recognized position in the pathology of the optic nerve and the retina."

Gruening deserves great credit for his careful record of this case. The subject is one of great interest. The eleven cases previously published by other observers, and this case of Gruening's, place the fact beyond question that quinia, in large doses, may and does produce temporary blindness in the whole visual field, and a more or less marked permanent absence of vision in the periphery.

Dr. J. C. Dalton, of New York, read a very admirable paper before the New York Academy of Medicine, February 17, 1881, on "Centers of Vision in Cerebral Hemispheres." He gave a résumé of Ferrier's investigation on the subject, and also several of his own experiments.

Ferrier, you remember, locates the powers of visual perception in the angular convolution, which, in man, is situated on the lateral surface of the posterior third of the hemisphere, immediately behind the posterior extremity of the fissure of Sylvius. Its name is derived from the sudden downward bend which it makes in this situation, after

which it runs dowhward and forward, becoming continuous with the second principal convolution of the temporal lobe.

Dalton, in his experiments, which were on dogs, extirpated this angular convolution on one side, and in every instance found visual perception destroyed in the eye of the opposite side, which, however, in the dog, is restored, apparently, in a few days. Ferrier states that in the monkey, and in man, restoration does not take place.

Dalton found, too, as Ferrier had, that when the angular convolution of both hemispheres is extirpated, immediate and complete loss of visual perception occurs, and then no restoration follows.

Numerous pathological observations on man confirm Ferrier's statements, that visual perception resides in the angular convolution.

Dalton's conclusions are as follows:

"1. Extirpation of the angular convolution causes loss of visual perception on the opposite side.

"2. This operation is not followed by any disturbance of the intelligence, attitude, power of locomotion, or general sensibility.

"3. It does not interfere with the local sensibility of the retina or conjunctiva, the reaction of the pupil to light, nor with the normal consentaneous movements of winking. Its effects are therefore confined to the exercise of visual sensibility."

REPORT OF COMMITTEE ON PHYSIOLOGY.

BY M. B. MITCHELL, M.D., NORTH TOPEKA, KANSAS.

DIGESTION.

The etymological meaning of digestion is, to dissolve. Hence, the liquefaction of food in the alimentary canal as preparatory to its absorption and assimilation.

The importance of this subject is readily apparent when we remember that, on the one hand, development and health of animal life are largely dependent upon a healthy action of this function, and on the other hand, imperfect development and disease are largely the result of impaired action of this function.

We see the necessity of this digestive apparatus when we apprehend the inherent quality and combination of elements which are essential to animal life.

This process is not needed in the development of vegetables, because they are dependent for their nutrition upon inorganic substances, as water, carbonic acid, ammonia, and saline matters, which materials are obtained from the air and earth, and already being in a state of solution, do not need any preliminary process to prepare them for absorption and assimilation.

But in the animal kingdom nutrition is obtained from materials which are mostly solid or semi-solid, and insoluble in water—as meat, the cereals, fruit, vegetables, etc. All these need to be dissolved by the process of digestion before they can be absorbed.

Why the all-wise Creator made it necessary that man should obtain his support from such indurated resources, and thus impose upon him the difficult task of digestion, is one of those physiological questions which we can answer only by saying that it is in accordance with His wisdom and beyond ours.

The unceasing waste of the animal body, consequent upon respiration, nervous and muscular action, necessitates a correspondingly continuous supply and renewal of the whole frame, by the deposition and organization of matter from the blood, which is thereby gradually impoverished.

To meet this demand necessitates food, and such, too, as when properly transformed and prepared, will furnish all the varieties of material existing in the body.

To prepare these supply materials for absorption and adaptability to all parts and tissues of the body, is the function of digestion.

The apparatus employed in this process includes the different parts of the alimentary canal, viz.: The mouth, with the teeth and salivary juice; the stomach, with its gastric juice; the small intestines, with their pancreatic and intestinal juices.

As the species of animals differ in their habits, the constitution of their tissues, and the character of the nutriment demanded to supply the waste, so the function of the different parts of the alimentary canal varies.

In man, whose nutriment is, as we have heretofore said, obtained from materials which are largely solid, the first part of the process, or that which is performed in the mouth, is, perhaps, entirely a mechanical one, viz.: trituration and minute subdivision of the food by the teeth, assisted by the moistening and softening influence of the salivary fluid. This fluid is secreted by the glands on account of a nervous influence produced by the presence of palatable food in the mouth. This preparation of the food is necessary in order that the chemical action of the other digestive fluids may be readily accomplished. The food next passes into the stomach, where its presence excites the flow of an acid fluid from the glandular walls of the stomach, which continues to flow while digestion is going on. This fluid, with the assistance of the peristaltic motion of the muscular fibers of the walls of the stomach, is made to permeate every part of the alimentary mass, and causes the albuminous ingredients to be digested simultaneously.

Dr. Beaumont, and others, have verified these results as to the selective character of the gastric juice by observations through a gastric fistula.

The food next passing into the small intestines, the starchy and saccharine substances are now attacked by the intestinal fluids. As the albuminous substances have been already digested by the gastric fluid, so now the starchy and saccharine substances are dissolved by the fluids in the small intestines.

The only remaining ingredients of the food which require digestion are the oily matters. From experiments by Bernard and others, upon animals, the oily matters are not changed in their essential elements by the gastric and intestinal juices, but merely melted by the heat, and set free from the vesicles, fibers or capillary tubes in which they are contained. But these same experimenters have demonstrated that these oily matters, upon coming in contact with the pancreatic juice, are soon converted into an opaqne emulsion called chyle, which, in this condition, is taken up by the absorbents and transmitted to the circulation.

It has been clearly demonstrated that the bile has something to do in this work of digestion, but the precise nature of its function in this respect, we believe has not been determined.

There are certain conditions essential to a healthy and thorough digestion. First, the material of food must be susceptible of being disintegrated and dissolved in the alimentary canal in such a way that it may be absorbed and assimilated. An article may be highly nutritious and yet quite indigestible, or it may be quite digestible and only very slightly nutritious.

Again, in regard to the digestibility of an article, an invariable rule cannot be applied to different individuals. There are differences in kind and degree of the digestive powers of different individuals. Habit has a great deal to do in this matter. What one person has been accustomed to, and digests readily, may be quite offensive to the stomach of another, unaccustomed to it. The high flavoring which excites the appetite of the epicure would be quite nauseating to a less cultured stomach. An American visiting the continent of Europe is apt to be attacked with diarrhea on account of change of diet. History tells us that during the Revolutionary war troops from the Southern States, on duty at the North, frequently became ill, and were only relieved when they were put on an allowance of fat bacon. The convalescing exoduster wants to know if he can eat some bacon and corn bread, simply because he has been accustomed to such diet. Climate has its influence. The oily diet suited to the appetite and readily digested by the Greenlanders, would be very unsuitable and injurious to the inhabitants of the West Indies.

As we have already indicated, the materials of food must contain such variety and proportion of elements as to supply the corresponding demand for each variety of elements in complete nutrition. Experiments show that animals fed on saccharine or oleaginous substances alone, are found to soon perish with starvation.

Digestibility of food is much influenced by our liking for it, within certain limits. What we are fond of agrees with us best, and what we dislike is not likely to digest well. The proper preparation of food in the culinary department is necessary. It must be palatable. The fiber of the material must be so softened that it may be easily disintegrated and dissolved by the digestive fluids.

Now, after this limited presentation of the subject from a physiological standpoint, we will refer briefly to the pathological and therapeutical importance which it sustains to the mission of the physician. To be successful in meeting the responsibilities of the sacred trust which we as physicians have assumed, we cannot be too familiar with the physiological principles of waste and repair. We should be able to trace effects to causes. Anything short of this will rate us as mere "empirics," "blind guides," as a mariner without a compass; but familiarity in this respect will often make diagnosis easy, and readily dictate appropriate treatment of disease.

There is a long catalogue of inflammatory ailments, structural lesions and functional derangements of the digestive organs, which are very largely the result of influences which impair or arrest the healthy activity of the digestive functions. We will recall a few of these influences, such as mental emotions, which commonly affect the secreting organs:

Bad news takes away the appetite and impairs digestion.

Fright, or anxiety, may bring on a bilious attack or diarrhea.

Long-continued mental depression often induces dyspepsia, diarrhea, or dysentery.

Severe mental or bodily exertion, immediately before or after taking food, will delay its digestion.

Want of appropriate food brings on disease, as a lack of vegetables may be followed by an attack of scurvy.

A great many cutaneous affections are the necessary consequence of bad nutrition.

Every physician can testify to the great suffering and dreadful destruction of infant life consequent upon injudicious or insufficient feeding. It may be the result of the ignorance and carelessness of the nurse, or, perhaps, the mother's anxiety overbalances her judgment, so that the digestive powers of the little sufferer are so taxed beyond their capacity that they act but very imperfectly, if at all; absorption and assimilation cease, the babe soon succumbs to a prostrating disease, or, perhaps, dies of inanition.

Some of the more frequently occurring disorders of the nervous system, as chorea, vertigo, and hysteria, frequently have their origin in a deranged digestion, and cannot be overcome until said derangement is corrected.

Who has not witnessed the pale, gloomy, woe-begone expression of the dyspeptic? He, perhaps, has gained a reputation as a chronic

complainer—dissatisfied with all creation; or, perhaps, he is picturing his destiny amid all the horrors of the "infernal regions," scarcely surpassed by the closing scenes of the debauchee consequent to his bacchanalian revels.

In view of these facts—showing the long train of ills directly or indirectly the result of the impaired functions of the digestive apparatus; in consideration, too, of the truth that these ills are largely preventable—as they are generally the result of the ignorance of the masses to the laws of hygiene and dietetics, which laws emanate from the physiological demands of the digestive system—it may not be amiss before closing this paper, to call attention to an important *deduction*, which is that we need a more *practical education of the people* in respect to physiological and chemical topics, which sustain such intimate relations to health and life.

Fellow-physicians, as guardians of health and friends of humanity, an important part of whose mission is preventive medicine, let me urge you to use your influence to promote this education. Insist upon the necessity that every school teacher should be qualified to teach chemistry and physiology, and that the practical principles of these branches, which have a direct bearing upon diet and health, should be made in our common schools, as well as in our high schools, an essential part of our system of education.

A CASE OF UTERINE POLYPUS, (WITH SPECIMEN.)

BY L. J. LYMAN, M. D., MANHATTAN, KANSAS.

Mrs. I. W. resides near Louisville, Pottawatomie county; forty-five years of age, the mother of several children, the youngest five years of age at the time she first consulted me, in December, 1878. There was nothing unusual about her last confinement, but a few months after she noticed something coming down in her vagina, for which she consulted a physician, who told her it was probably falling of the womb, and advised a supporter, which, however well it may have relieved the prolapsus, did not stop the growth of the tumor.

Upon inquiring into the history, etc., of the case, the usual prominent symptoms of uterine polypus were made out, and particularly the watery discharge between the periods of menorrhagia, which watery discharge was quite profuse.

Upon making a digital or rather a manual examination, the whole hand having to be introduced, the patient being under an anæsthetic, the tumor seemed to completely distend the vagina, presenting its lower part at the vulva, while the upper end rested against the promon-

tory of the sacrum, and a short, thick pedicle could be felt, attached to the anterior lip of the uterus.

With the assistance of Drs. Taylor and Duckworth, of Louisville, I next attempted its removal, using a Smith's ecraseur and wire rope. It was with great difficulty that the rope could be passed between the bladder and the tumor, for the polypus was pressed very firmly against the pubic bones. But finally it was pushed over and back so far that we thought, as the rope tightened, it would draw into place around the pedicle. However, upon drawing down the loop with the screw it refused to pass any further, and as we could not move it further we resolved to attempt cutting where the rope was lodged, and so remove it piecemeal. And still we were doomed to disappointment, for as soon as much power was applied to the screw the rope broke, and, although some four or five attempts were made by what was left, it finally became so short we could use it no more, and the operation had to be abandoned for the time.

I then procured a larger rope, together with a piece of piano wire, and we proceeded to make the second attempt to remove the polypus. In order that I might be more successful in passing the wire to its proper place, I devised this instrument which I show you. It is constructed very much like a vectis, but the blade is made from nail-rod, and dressed down thin, so that by using a little force it can be bent into any desired curve to facilitate its introduction. An eyelet is drilled near its extremity for the purpose of passing a cord to hold the rope or wire firmly at this point, and the whole to be manipulated the same as with a single copper sound as recommended by Emmett. Although this adjuster was not used in this case, nevertheless I believe for very large tumors of this kind it would accomplish what could not be done with a single rod.

Before commencing the operation the second time, we had decided to first attempt to "deliver" the polypus with obstetrical forceps, and if successful to apply the ecraseur to the pedicle after delivery.

In order to accomplish this the patient was chloroformed, and the forceps applied the same as in a case of instrumental delivery. We found that although the tumor was very firm, it was not so hard as an infant's head, and the instruments would slip, but not before the tumor was brought down an inch or more, which was then secured by a strong tenaculum and held firmly by my assistant until the forceps could be readjusted. By this means, reapplying the instruments a number of times, the tumor was removed from the vagina, the pedicle and osuteri presenting at the vulva. The former was found to be a little less than an inch in diameter and about an inch and a half long, and seemed to be from its size a continuation and enlargement of the anterior lip.

The ecraseur was then easily applied, using the piano wire, we thinking that by reason of its smallness it would more readily cut the tough

pedicle, and yet it seemed every moment that it would certainly break, as so much force was required to turn the screw. However, it cut slowly through, and we soon had the polypus removed. Its weight was a little less than four and one half pounds. No mark of the former attempt at its removal four weeks before were visible. There was only a trifling oozing from the stump, and the patient rapidly improved in health, strength, and size.

REPORT OF CASE.

BY W. L. SCHENCK, M.D., OSAGE CITY.

In August, 1877, Mrs. M. was delivered of her fifth and youngest child. For some months before, she had been in poor health; and a few days after had rheumatism, confined chiefly to the lower joints, which continued with more or less severity until June, 1878, when it became cardiac, and they abandoned the homœopathic treatment heretofore pursued, and I was called to the case. After a few visits she was relieved, and I did not see her again until July, 1879. She was then the subject of a complication of troubles—rheumatism, from which she had never been wholly relieved, confined chiefly to the hips; periosteal inflammation of the coccyx; amenorrhœa, with obstinate constipation, and enormous impaction of the colon, causing her to suspect pregnancy: and extreme nervous irritability. Her health gradually improved, but on the 15th day of September she fell upon the floor, and I was called in haste to see her. She was suffering intense pain in the hip on which she had fallen, but a careful examination revealed nothing more than a bruised rheumatic joint. In a few days she was about the house and able to ride out, though still quite lame. Two weeks after, I was called early in the morning, and found her suffering severely at the middle third of the thigh, on the injured side. The limb was lying on the pillow, and there was an evident bony prominence. It was so painful she resisted the slightest touch. Though no history of any force, I suspected fracture, and proposed examining it under chloroform. The husband objected, saying nothing had occurred to cause fracture unless it had been broken in the fall a fortnight before. There being no pain in the femur at that time, which I had freely used as a lever in examining the hip, and she having walked about the house and rode out since, I decided that impossible. In a few days she allowed sufficient manipulation to enable me to diagnose fracture, when, assisted by Drs. Haller and Mopman, she was placed on Hamilton's fracture bed, with sufficient extension to keep the limb in place. She was kept in bed for six weeks, though not as immovable as was desirable.

on account of her rheumatism and general ill-health, but, as I supposed, sufficiently quiet to secure union. On removing the splints, however, we found no union had taken place. The limb was then dressed with a plaster splint, and from time to time re-dressed with plaster or starch, and she was strongly urged to use crutches and exercise in the open air, but in vain, as she complained of the pressure of the crutches and her consequent inability to use them. The injured femur gradually increased in size, and meanwhile what I had diagnosed as rheumatic periostitis gradually involved the illiac bones, the right femur, the back, shoulders, and both humeri.

In February, 1880, Drs. Freyer, of Fort Leavenworth, and Haller, of Burlingame, were called in council. They agreed the fracture did not occur at the time of the fall, but was dependent on degeneration of the bone; its exact nature undecided; that no operation, except it might be amputation, would benefit the patient; and recommended exercise in the open air, and the use of Smith's apparatus for ununited fracture as the means of obtaining it. We immediately sent to Tieman & Co., New York, for the instrument, but from some unaccountable delay, before it arrived our patient was unable to have it applied.

Despite a varied treatment with salycilate of soda and salicine, alkaloids, iodides and opiates, oil and malt, iron and quinine, etc., after eight months of most intense suffering, allayed only by opiates and anæsthetics, and the nervous system quieted by variously combined nervines. death came to the relief of our patient, but not until the right humerus had been broken while being carefully moved to change its position.

In the history of our patient we could find no syphilitic taint, nor did we suspect any; and only for a few days prior to her death did we suspect disease in any of the bones—except the one first broken—other than periostitis, as there was no perceptible alteration in their size or outline.

With the tender handling of her friends, while preparing her for the grave, the right femur and left humerus were broken; and upon the slightest pressure, when, a few hours after, arranging for a post mortem, the strong bones of the illium were crushed.

In cutting down upon the fracture in the bone first broken we found a cartilaginous union containing more or less thin lamina of bone. The entire femur was about four times the size of its fellow, composed of cartilaginous matter and cavities surrounded by thin, bony walls, filled with a viscid, sebaceous-looking substance, and the periosteum was thickened, rough, and feebly adherent. Had we simply hypertrophy, sarcoma, or schirrus, or osteo-malacia? Perhaps an examination of other of the diseased bones may aid in our diagnosis. In attempting to dissect out the upper end of the broken humerus the mere force of the finger, in lifting it to cut away the soft parts under it, caused it to break below the head. The bone was thinned, the medullary cavity

greatly enlarged, and, together with the interstices of the bone, filled with an oily sanies, with an almost complete absence of medullary membrane. The appearance of the matter in the cavity was not well defined, and might equally well have been considered oil, pus, or serum, containing white globules. We had no opportunity of subjecting it to the microscope, and might not have been greatly enlightened thereby, as white blood globules and pus cells are scarcely distinguishable from each other. But why all these pus cells, when there was no evidence of suppuration? Why oil globules, in such quantity, stored away in a patient emaciated to the last extremity? And even though, as some physiologists hold, white blood globules are formed in the medullary cavity, why this excess of them here? What was the morbid action causing the pathological conditions present? During the life of the patient I never was sure of my diagnosis of the condition of the bones, beyond periosteal inflammation, rheumatic in its character, as abundantly evidenced in the long-continued rheumatism of the patient; the pain, accompanied with great tenderness, finally being located in the periosteum—at first migratory, but ultimately fixed and unchangeable; and in the autopsy in a periosteum congested, thickened, spongy, and in some places preternaturally, and in others slightly adherent. The diseased condition of this membrane, and the general mal-nutrition of the patient, are sufficient to account for bony degeneration; but the difficult question to decide was the exact character of that degeneration. In "softening" we generally associate a condition quite different from the enlargement and fragility manifested in this case, and, if the remarks of Prof. Gross, in his work on surgery, under the head of Diagnosis, p. 876, vol. 2, were always true, that disease would be excluded. "In osteo-malacia the osseous structure is *completely disintegrated;* in rachitis, on the other hand, it is merely modified, and therefore susceptible of restoration." Yet we know of no other disease that possesses so many of the symptoms seen in our case, and from an examination of the bones, and a history of the case, such is the diagnosis of Prof. R. P. Loring, of Kansas City, who, since the completion of my report, has kindly sent me the following letter:

KANSAS CITY, MO., June 15, 1881.

W. L. SCHENCK, M. D.—*Dear Sir:* Before leaving Kansas City Dr. Tremaine gave me to examine for him the very interesting specimen of bone which you sent to him. First, I must apologize for not having attended to the matter sooner, but I have had several ordinary specimens to examine, and the work takes time. I have examined your specimen microscopically. The enlarged medullary cavity contains oil globules, myeloid cells, leucocytes. The periosteum is thickened in some places, and the periosteal surface of some parts of the larger specimen (the humerus, I suppose) is indeed slight. The larger specimen is part of the cancellated structure of the femur, I suppose. Now of course the disease would come under the general head of "Fragilitas Ossium."

The causes of this condition may be either—

1. Syphilis.
2. Carcinoma.

3. Mollities ossium, or osteo-malacia, as it is often called.
4. Rickets.
5. Rheumatism.
6. Heredity.
7. Senility.

Now in your case you could find no history of syphilis, and the peculiarities of the case are not those we usually find in syphilis of the osseous system. The disease would be more localized in relation to the bones involved than it is. In the humerus sent the entire specimen is diseased, and the medullary cavity is evenly enlarged.

The ordinary forms of syphilis of the osseous system are:

1. Inflammatory osteo-periostitis.
2. Gummy tumors of bone.
3. Dry caries (of Virchow).

The specimen corresponds to none of these.

It seems to me that cancer can also be eliminated, for the following reasons, viz.:

1. Cancer of bone is almost always secondary to some primary manifestation of the disease.
2. The microscope showed nothing cancerous.
3. Cancer of bone would never cause such an even absorption of osseous substance.

We can therefore overlook carcinoma in our search for the cause of these interesting pathological results.

Rickets, of course is set aside by the age of the patient.

There has been no history of chronic rheumatism or hereditary tendencies in the case, and the patient was too young for senility to have any causative influence: so we now have to examine osteo-malacia, and it seems to me that your patient was an example of a form of this interesting and rare disease.

In this affection one or more bones or the whole skeleton may be affected. There is actual absorption of the existing bone, and it is said that lactic acid is found in sufficient quantities in the medullary cavity to explain, by its solvent action, the absorption of the cortical substance. In the hollow bones the medulla assumes the preponderance, while the cortical substance becomes thinner and thinner. The periosteum participates somewhat in the disease, but to what extent, and exactly how, we hardly know. The spongy bones grow weaker and its cortical portion thinner; the medulla appears reddened and gelatinous, and contains lactic acid, leucocytes, myeloid cell and blood corpuscles. The urine contains oxalates, carbonates, phosphate of lime. The patients are generally women, as in your case. Gestation appears to have some influence in determining the approach of the disease. The bones most frequently affected are the patella, femur, ribs, humerus, tibia, and clavicle. Sometimes it is limited to particular spots, as the neck of the femur and surgical neck of the humerus.

Symp'oms: Earliest symptoms are deep-seated growing pains, resembling those of periostitis. The pains are generally located about the pelvis, the loins, over the chest. They are intermittent, and have nocturnal exacerbations. The patient is easily fatigued. The bones begin to yield, and footing becomes insecure. Deformities, or curvature, or spontaneous fractures, occur, according as the disease is general or local, and according to rapidity and evenness of absorption of bones. The disease is generally fatal, death taking place from exhaustion in periods varying from two years to six years. The shortest case on record is three months.

You will find the disease described in Agnew's Surgery fairly well. Also in "Holmes' System of Surgery," in Bilroth and Bryant.

It seems to me that yours was one of the varieties of osteo-malacia. The case is interesting, and I should like to hear more of it if you have discovered more evidence.

Yours respectfully,

R. P. LORING,
Professor of Physiology in Kansas City Medical School.

REPORT ON ANÆSTHETICS.

BY W. W. COCHRANE, M.D., ATCHISON, KANSAS.

Probably the most noted instance of persistent opposition to, and continued denunciation of, a new discovery in medicine has been the heroic warfare waged against anæsthesia. So persistently and arduously have the enemies of progressive medicine expended their talent against this grand achievement of modern therapeusis that they had for thirty years manufactured a skepticism which had retarded its progress, and to a great degree destroyed its practical utility. But they have quietly given up the controversy, acknowledged their failure, and humanity will fervently rejoice, and the practitioner of the future will exult at an accomplishment fraught with so much importance to their success. At the present time there is probably a greater unanimity accorded to the importance of and innocuity of anæsthesia than any other divisional class of therapeutics. The surgeon who would dare to perform an operation of any importance without its use, would find it difficult to ward off disgrace. No report worthy of credence has ever been made of a death from chloroform in obstetrics.

The obstetrician who hesitates to administer it, under any contingency, will inevitably find himself amenable to one of three unpropitious ordeals. He will induce the patient to believe that she has some organic disease, contra-indicating its use; he will incur the imputation that he is timid, and ignorant of its proper mode of administration: or, that he is void of all sympathy for his patient. So generally has it come to be used, that even timid old women have become ashamed to express their fear of it. It is a singular fact that, from the time of its discovery, minor surgical operations have given the greatest mortality, and notwithstanding the regular and rapid increase of its use, the mortality has regularly and rapidly decreased. Statistics show that from 1848 to 1855, there were forty-eight deaths from all anæsthetics; from 1855 to 1862, there were twenty-six deaths; and from 1872 to 1869, there were twenty deaths in all countries. On looking over the *Medical Journal*, I have found but two deaths from this cause recorded for the year 1880. Inasmuch as the journals were wont to publish deaths from chloroform with as much zest as did the daily papers publish murder, we may infer that not many more than these have occurred.

Why this decided decrease in the mortality from this cause, has not been definitely decided. It may possibly be attributed to the combined influence of a purer article used, a better mode of inhalation, and the greater confidence of the subjects.

Anæsthesia may be divided into three classes—artificial, medicinal,

natural. Sleep and syncope are of the last, medicinal substances produce the second, and mesmerism analgezia the first. Of the twenty medicinal substances acknowledged to be anæsthetic, but three have been retained for general use; all have been discarded except chloroform, ether, and nitrite of amyle. Ether has been vaunted as harmless, and is used by a few surgeons; chloroform is used almost exclusively in obstetrics and general practice; nitrite of amyle is being spoken of as a limited remedy. Nitrous oxide is used for the purpose of extracting teeth by dentists. Ample thorough clinical facts have been recently given by authority to induce the conclusion that chloroform will, ere long, entirely supersede the use of anodynes, narcotics, nervines, soporifics, sedatives, and anti-spasmodics.

The inhalation of chloroform has become the essential treatment for all functional spasmodic affections, the superiority of which over the nauseating, blistering and narcotizing treatment of old can but be appreciated by all. Eclampsia has been treated by it with marked success; tetanus has been modified by it, and is considerered an important adjuvant in all cases; epilepsy may be mitigated, and some cases have been reported cured by it. Pertussis, hiccough, chorea, infantile convulsions, hepatic, renal and gastric colic, angina pectoris, delirium tremens, pneumonia, spinal meningitis, neuralgia, have in many instances been successfully treated by chloroform; and in no instance has it been reported to have actually done harm in any one of these cases. As early as 1847 the writer was called to visit a young woman who, for suicidal purpose, had inhaled chloroform; was supposed to be dying in convulsions. I asked for the vial, and at once exhibited it to full anæsthesia; in one hour she awoke in a normal condition, and remained so. Since that time I have used it in all hysterical cases. In idiopathic fevers with headache, burning skin, parched tongue, pain in every tissue, restless delirium, inhale chloroform to full anæsthesia, and in one hour what a wonderful change, on awakening, to find the mind clear, the skin in cool perspiration, not a vestige of pain, tongue moist, strength restored; as it were, a new being.

Recently the subject of mesmerism has been investigated in a more scientific manner than formerly, and from the numerous positive decisions and conclusions on the subject, made by scientists of Germany, France, and America, we may fairly conclude that the opprobrium so long attached to the subject has been removed, and that henceforth the sensible medical man may allude to its use without fear of being considered an enthusiast. At last we are justified in according it a place in medical science as a therapeutic agent.

The fact having been amply verified that profound anæsthesia can be produced without medicine, by manipulation, or from some influence of one person exercised over another person, warrants us in denominating it artificial anæsthesia. Dr. Hammond says that every

man with a will-power can so influence his subject as to produce this anæsthesia. He calls it signosticism. Dr. Beard says it depends upon the susceptibility of the subject, and but few have the power to influence; he calls it hypnotism. There is every reason to believe that the cultivated normal mind, with methodical continued effort, can so influence the abnormal or sick sensitive as to produce, to a greater or less extent, an anæsthetic condition. By experimental study of temperament diathesis and systemic condition, it will ere long be decided definitely who can produce anæsthesia, and who are susceptible of being anæsthetised. When this shall have been decided — the theoretical status matured — practitioners will at once commence experimenting, and will doubtless soon bring this valuable power into practical use.

Analgezia has been recently spoken of as practical. Rapid, forced respiration may produce anæsthesia, whether by oxidation of the blood or by a concentration of the mind on the effort producing a hypnotic condition has not been decided.

PUERPERAL INSANITY.

BY B. D. EASTMAN, M.D., TOPEKA, KANSAS.

One of the most shocking and overwhelming of personal, family and professional experiences is maternal death in the lying-in chamber. Buoyant hopes and fond anticipation culminate, not in fruition, but in the darkest disaster.

Of such death the poet writes:

> "Come to the mother, when she feels,
> For the first time, her first-born's breath.
> . . . . . .
> And all we know, or dream, or fear
> Of agony are thine."

The sudden advent of a furious type of puerperal insanity is only less appalling, because hope lightens the otherwise impenetrable darkness.

It is fortunate that puerperal insanity is not of frequent occurrence, and many practitioners may never see a case. On the other hand, when it is his misfortune to encounter this disease, it is a time for immediate action, and he should be well grounded in the principles upon which to base his treatment.

It is for this reason that I have selected "Puerperal Insanity" as the subject of a brief practical paper.

PUERPERAL INSANITY.

As a specialist, reading to general practitioners, I shall aim to give, mainly, simple practical suggestions, which may be useful should you be suddenly called to treat this disease.

At the outset I may disclaim any considerable knowledge of puerperal insanity in the lying-in chamber. Substantially, all my professional life has been given to the care of the insane, and, in the lying-in chamber I have only seen a few cases in consultation; but I trust my hospital experience may not be useless in the task I have undertaken.

Puerperal insanity, as the term is sometimes used, includes both the insanity of gestation and the insanity due to lactation or weaning. I use the term in a restricted sense, and include only those cases which occur in the first few weeks following child-birth, and which seem to arise chiefly from the puerperal state.

Asylum statistics as to the frequency of this disorder are very misleading, for many slight cases, or even severe cases of brief duration. never figure in hospital tables.

As to the period after child-birth at which puerperal insanity occurs, of 73 cases at the Royal Edinburgh asylum, 27 showed signs of insanity from the first to fifth day after labor, 36 from the fifth to the fourteenth, and 10 from the fifteenth to the sixtieth. In 82 cases reported by Ripping, 35, or 42.6 per cent., occurred during the first week; 22, or 26.8 per. cent., during the second; 7 during the third, and 6 each during the fourth, fifth, and sixth. Of 66 cases reported by Dr. McDonald, formerly physician to the Bloomingdale Asylum, (New York city), 29 became deranged during the first week, 15 during the succeeding three weeks; that is, two-thirds occurred during the first month.

The general rule, deduced from these statistics, is, that the danger diminishes as the distance from parturition increases.

Women are more liable to this complication at their first than at subsequent labors.

The most usual form of puerperal insanity is *mania*, but melancholia, delusional insanity and acute dementia sometimes occur. It is not uncommon to see a precursory stage of mild melancholia, followed by a severe explosion of mania.

Sometimes indications of insanity are observed before any particular physical derangements are detected, and occasionally the onset of maniacal symptoms are fast and furious; but as a rule the physical symptoms show themselves first. The patient becomes uncomfortable, restless, cannot sleep, complains of headache, the milk and lochia are suppressed — the latter more frequently than the former — the tongue is coated with a heavy white fur, the bowels are confined, the urine scanty, frequently containing albumen; the abdomen, however, in most cases, is not particularly sensitive to pressure, and the pulse, although accelerated, is irritable rather than febrile in character. Cases are,

however, seen, in which the indications of inflammatory mischief are more marked. Some of these are more properly examples of phrenitis rather than mania, and others are examples of inflammatory complications of the thoracic, abdominal or pelvic organs. *Great frequency* of pulse and high temperature are very serious symptoms, and when these indicate inflammation the prognosis is very unfavorable. Dr. Batty Tuke says: "I am sorry to admit that in my experience, which extends to four cases complicated with internal inflammation—two of bronchitis, one each of peritonitis and pelvic cellulitis—the result was invariably fatal."

As a rule the mania of the puerperal state is more markedly connected with sexual matters and delusions than is ordinary mania. The profanity and disgusting obscenity which will be uttered by some delicate, refined lady, whose every normal word and act is propriety itself, will astonish the physician and astound the friends. Such language, coupled with a recital of imaginary wrongs, with aversion, and even total neglect of husband and child, violent gesticulations, and the most lascivious and reckless exposure of person, make up a picture to be with horror remembered by the practitioner and the family.

In this distressing state of things, what is to be done?

The general indications are to procure free evacuations of the bowels, to irrigate the vagina with suitable antiseptic solutions, to cool the heated head, to *supply*—and this is very important—to *supply* sufficient easily digested food, to calm the nervous perturbation and to procure sleep. Calomel and copious enema are among the most easily administered remedies for fulfilling the first indication, but many others are applicable, and the physician must decide which is most suitable for a given case. Ofttimes the patient can be induced to take some favorite prescription or mineral water when everything else will be refused.

With almost all cases there is previous impairment of the vital stamina, and the early administration of food is very important, and stimulants are not contra-indicated. Egg and milk, with brandy, nutmeg and sugar—*secundum artem*—is not only a most excellent and easily digested food, but it is very conducive to a quiescent state of the nervous system, a good preparation for anodynes. Indeed, it is often surprising how much of anodyne effect is obtained from such food.

As an anodyne, the best results, on the whole, are to be obtained from chloral, to which the addition of bromide of potassium or a moderate amount of morphine is frequently very advantageous. Chloral seems to be a sleep compeller, so to speak, while opium seems to have a really recuperative power when used with due moderation; but opium alone, in sufficient quantities to produce sleep in these cases, is too apt to derange the stomach, suppress and vitiate the secretions, and so benumb the whole nervous system as to insure a fatal issue. Too often, alas! I have seen such cases brought to the asylum only to die.

After liberal doses of anodynes have been given without producing the required effects, the happiest results sometimes follow the use of ether or chloroform. A sleep commenced by a few whiffs of ether will sometimes be continued for hours by the anodynes previously administered.

Sponging the body with warm whisky often produces a most happy effect.

Chloral by enema, in quantities up to sixty grains, has often been of great service in my hands in cases where there was irritability of the stomach, or difficulty in inducing the patient to swallow. This dose, once in twelve hours, will usually produce several hours' quiet without harmful effect.

The selecting of the proper persons to nurse the patient is a question of great importance, one in regard to which the physician has, unfortunately, too often little or no choice. Strangers usually succeed better in caring for such patients than do members of the family, and the physician himself can frequently exercise a particularly favorable influence — and sometimes it is just the reverse. An important point is not to argue with the patient. Argument usually incites antagonism. If something is necessary to which the patient will not consent, let the patient be plainly, quietly and firmly informed what is to be done, and then, if consent is not given, let sufficient assistance proceed to do what is needed, *without* argument or unnecessary talk. Pay no apparent attention to the abusive talk and actions of the patient, and be sure that no personal indignity which she may inflict causes any show of irritation.

If the patient is very violent and restless, and disposed to denude herself, so as to require to be held, mechanical restraint will be preferable to manual holding.

The simplest and readiest form of restraint for these cases is the camisole, which any ordinary sewing-woman can make under your directions. Let a waist, fitting the form, and opening in the back, be made of strong drilling or denim. Let the sleeves be about six or seven feet long, growing gradually narrower below the points where the hands naturally come. Work eyelets in both sides of the back. In putting on, slip the sleeves over the hands, lace up the back with a soft string, like a narrow strip of drilling, then cross the arms in front and tie the ends of the sleeves together close behind one arm, so the knot will cause the least annoyance in lying down. If it is necessary to secure the arms more firmly, cross the long sleeves upon the back, without tying, carry the ends between the arms and body, near the elbow, and thence outward around the arm, and tie as before. If the patient is still so furious as to require to be more secure, or grows exhausted so as to necessitate the recumbent position — I must warn you that exhaustion sometimes comes swiftly and suddenly before you are aware of it — and the hand

of the nurse is insufficient, or too irritating, pass a sheet, folded cornerwise, under the back, between the arms and the sides and over each arm, and tie to the bed-rails or posts, a little above the axillary space. The feet, if necessary, can be secured by a sheet, knotted around each ankle, and tied to each side of the bed.

A great deal of sentimental tirade has been made against any form of mechanical restraint in the case of the insane; but anyone who has seen, as I have, a maniacal and exhausted patient, who for hours had been continuously struggling against hands, quietly give up the contest and sink quietly to sleep when she found her restraint was mechanical, would be a convert to the proper use of mechanical restraint. But I must warn you that so markedly favorable results are not to be expected in every case; nevertheless, as a rule, the mechanical is less irksome and irritating than manual restraint.

About one-fourth of the cases of puerperal insanity assume the form of melancholia. It has already been mentioned that a brief stage of melancholia frequently precedes maniacal development, but these cases are, of course, considered as belonging to the maniacal class. The melancholia of the puerperal state is not particularly different from ordinary melancholia, except that it is less likely to exhibit religious delusions. There is the same general condition of absent-mindedness, strange notions, sleeplessness, pale tongue, flabby and indented at the edges, pulse frequent and feeble, skin relaxed, bowels confined, no appetite, etc., conditions which point to the depressed condition of the system.

If the case be one of melancholia, the same general principles must guide; *food* and sleep are, however, of *more* importance, especially the food, and care must be exercised that the constitutional stamina is not too much exhausted during the first few days, either by lack of food and sleep or too active medication.

The first week or ten days of a case of violent mania or profound melancholia are critical, from danger of death by exhaustion, and if the patient can be tided past this stage, she has reached a point on which to build hope of recovery.

Irritability of the stomach is a serious and troublesome symptom, and is sometimes the first indication of hopelessness. One of the best means of combatting this symptom in these cases, and one of the best of stimulants as well, is champagne, administered at frequent intervals, by the wineglassful, administered from a bottle topped with one of the faucet corkscrews to be found at the drug stores and hardware shops. Rectal alimentation and anointing with oil, and bathing with whisky, also come in as aids.

When all other means of giving food fail, feeding by the stomach tube is the last resource. In hospital practice I have never had cause to regret feeding too early, but I have had occasion to regret too long

delay before resorting to this measure. The disagreeable and troublesome character of this operation leads one to postpone it as long as possible, and this would be a consideration of considerable weight in a private family, especially if one had no medical assistant or trained nurse to aid him.

The readiest way to feed by means of the stomach tube is to seat the patient in a strong chair, and secure the lower limbs to the legs of the chair by several turns of a roller towel or a sheet. The arms can best be secured by a camisole and then secured by wrapping a sheet around the whole body and the back of the chair, or the wrists of the crossed arms can be grasped and held by a person on a low seat behind the chair. An assistant now holds the patient's head between one arm and his body, and with a rather blunt hickory wedge, about 1x⅝ inch and 6 inches long, in each hand, he gradually works the jaws apart, and when sufficiently open he holds them separate with one of the wedges turned edgewise and firmly grasped in the hand, which should rest upon and firmly press the cheek to prevent the wedge being misplaced, the pressure of this hand being counterbalanced by that of the other on the opposite side.

In passing the stomach tube in asylum practice the little gag with a hole in it is never used, but the point of the tube is depressed into the œsophagus by the finger, pushed well into the mouth. The stomach pump is not needed. Strained soup, or milk and egg, etc., flow into the stomach readily by gravity, a funnel being attached to the top of the tube by a bit of rubber hose. The tube need not be passed into the stomach, as the natural action of the œsophagus is sufficient for the lower half of the distance, hence in an emergency a large catheter could be used, being careful to tie a string to it to avoid the danger of its being drawn down and lost.

The nasal feeding-tube is sometimes used. In this case a smaller tube is passed through the nostril and posterior nares into the pharynx and thence to the œsophagus. This avoids the sometimes very troublesome job of opening the mouth, but requires rather more skill. If the patient be very feeble, she is best fed while lying in bed.

Delusional insanity and acute dementia are much less frequently seen, and are, as a rule, much less dangerous to life in the early stages.

A point which I wish to most emphatically impress upon you is the danger, in puerperal insanity, of suicide and homicide, the latter impulse being particularly likely to be directed to the babe. No woman affected with puerperal insanity should ever be left alone; she should never be without an intelligent, keen, wide-awake companion. If this precaution is neglected, you may suddenly find that your art can do no more for mother or child, or both.

Thus far I have spoken of home treatment only. Many cases of a mild type, and even others of very severe type, will be convalescent in

a few days, and the question of hospital treatment need not be considered. But if the case proves otherwise, it will in most cases be expedient to remove them to an insane asylum. Few families can sustain, for any considerable time, the cost, nervous strain and sleepless nights which the proper care of these cases at home requires.

Do not, however, start such patients for a long trip to the asylum, unless they have the stamina to withstand the exhaustion attendant thereon. It has been my lot to see too many patients whose only chances for recovery were wrecked by an ill-timed journey to the asylum.

REPORT ON ELECTRICITY.

H. P. WOODWARD, M.D., WAMEGO, KANSAS.

It is with some degree of hesitancy that I approach the subject of electro-physiology. Its vast extent and intricacy demand much time and study.

That it is a much-neglected therapeutic agent, all will admit. Perhaps it will not be amiss to glance briefly at its history. Its early beginnings were shrouded in mystery.

Electricity was known 500 years before Christ, and owes its name to an observation by Diogenes Lucretius to Thales, one of the seven wise men who flourished, like his remote successor, Franklin, as a statesman and natural philosopher. The observation referred to was, that when amber had been rubbed it acquired the property of attracting light bodies, and from the Greek name of amber comes our term electricity.

As knowledge was extended, it was found that many effects — such as those produced by magnets, and by chemical action of acids upon certain metals — which had at first sight no relation to this property of amber, were nevertheless due to the same force, and thus the title electricity, in its widest sense, comes to include the science relating to all those actions dependent upon the force first seen in the amber, and are divided into statical or frictional, dynamic or galvanic, and magnetic electricity; and when we use the terms galvanism, faradism, contact electricity, friction electricity, induced currents, etc., we speak of one and the same force, only under different circumstances.

In the poverty of expression which marks our ignorance of all things that lie deeper than phenomena, we speak of this force as a fluid, or as two fluids — a positive and a negative — which accumulate and disperse, in various ways, and whose presence is manifested as an attractive or repulsive influence — now as a chemical transformation, now as the least spark, or in the lightning's flash, it is all the same, only in different proportions.

The only animals that have the power to give electric shocks are electric fishes. Nine or more species are known to have this power. The gymnotus electricus, a fresh-water eel of South America, said sometimes to be found twenty feet long, has the power of overcoming man, and even horses, by its tremendous shocks. In Brazil they are used by the natives to facilitate the capture of horses. The herd is surrounded and driven in the direction of the stream or lake containing the eels, into which the frightened animals rush, stamping upon the fish, many of which are as large as a man's leg, and in defense they throw out powerful shocks of electricity, so completely benumbing the horses that they are easily caught. The eels also exhaust their powers, and are captured with comparative safety, rallying again in a few hours.

Prof. Owen says the most powerful shocks are felt when one hand grasps the head and the other the tail. The most pain is felt at the wrists, the elbows, and across the back. It has also been demonstrated by the galvanometer that the direction of the electric current is always from the anterior parts of the animal to the posterior parts, and that the person touching the fish with both hands receives only the discharge of the parts of the organ included between the points of contact.

Prof. Faraday says the gymnotus electricus may produce a shock equal to that of fifteen Leyden jars, containing in all 3,500 square inches, charged to the highest degree. And so thoroughly is the fish a battery, that needles can be converted into magnets, and iodine obtained by the polar decomposition of iodide of potassium; and the professor, availing himself of this test, has shown that any given part of the organ is negative to other parts before it, and positive to such as are behind it. Heat has been evolved and sparks obtained from the fish.

The best known electric fish — the torpedo — is an inhabitant of our own country. It belongs to the Ray family, and fishermen are made painfully aware of its presence in their nets, the shock passing up the lines, and even following up splashes of water, completing a current in this insecure way, and giving the men a violent shock.

Three hundred years ago the Arabs were aware of the existence of an electric fish in the Nile, and called it raash, or thunder. It is an old legend that suspected parties proved their guilt or innocence by trying to withstand its shocks.

The torpedo and gymnotus have electric organs, intimately connected with the nervous system, consisting of a series of highly vascular cells which contain a glutinous matter. A vast number of blood-vessels pass through the electric organ, and it is permeated with nerves in every direction.

In ancient days the animal was impressed into use for medicinal purposes, and was the original electro-therapeutic medium. Discorides, the physician who attended Antony and Cleopatra, it is said made use of its power.

The use of electricity has been divided into three periods—Franklinic, Galvanic and Faradic electricity.

The methods employed in the Franklin era were the electric bath and shocks by sparks from the Leyden jar. In 1773 we find reports by eminent members of the profession that it is a remedy of vast and varied powers, possessing a most powerful influence over nutrition, equalizing the circulation, materially affecting the pulse, the perspiration, and the secretions, and particularly efficacious not only in the treatment of paralysis, but also of many other conditions, such as constipation and œdema.

The era of galvanization commenced with the discovery of animal electricity by Galvani, in 1786. In 1800 Volta invented the voltaic pile, and from that time the galvanic current was used with a greater degree of success as compared with the old method.

But the great change was in 1831, when Faraday discovered inductive electricity, which changed the whole course of electro-therapeutics. Greatly improved machines were constructed, its foundation principles were better understood, and from this time electricity was more extensively used.

Within the last decade rapid strides have been made towards a thorough and systematic investigation of the *modus operandi* and therapeutical use of electricity. Although we have learned much of this invisible, ever-present and all-powerful agent, still our knowledge is in its infancy.

Static or friction electricity, though sometimes of value, has inconveniences in its application, and is little used at this day.

Richard J. Dunglison, in his Reference Book to Practitioners, says of the electricity of chemical action, galvanism, or voltaism—the constant current: "Unless artificially interrupted, the electricity flows continuously until the battery is exhausted, just as a stream of water flows from an ordinary water pipe."

In Faradism the induced currents are of momentary duration, which are generated or "induced" in a coil of wire, by the action upon it, under certain circumstances, of a magnet, or of a voltaic current. There is no steady flow of electricity, but instantaneous currents only. These are repeated many times in a second, and they flow in alternate directions, as in the magneto-electric machine.

In electrization, the electricity is furnished or produced by cells with contained elements and chemicals. Electricity produces very opposite effects, not only according to its variety, but according to its method of administration.

The galvanic current applied with intermissions, that is, by moving the conductors during the application, differs in its effects from the same current applied as a constant current, that is without intermission, or with immovable conductors; and Faradism, or induced currents, differs from either of these.

We have in electricity one of the most speedy and reliable means of diagnosis in all pathological conditions of the nervous system. It furnishes an agent for applying irritation when we wish to provoke reflex contractions. It detects the points of affected nerves with more certainty than simple pressure, and for this purpose a very feeble current is sufficient. The current applied to the spine will detect deep-seated irritation or congestion; pain is felt when the conductor touches the morbid point.

D. F. Lincoln, in his work on electro-therapeutics, says sensitiveness to the electric current occurring in the track of a nerve is an evidence that a neuralgia is not idiopathic.

The great value of electricity as an aid to diagnosis lies in the indications its reactions furnish with respect to the seat of motor lesions. If the lesion which causes paralysis is peripherally situated, the paralyzed motor nerve loses wholly or in part its power to respond to the electric stimulus, but if the lesion is confined to a central organ, for instance the brain, medulla oblongata, or spinal cord, the reaction is not lost.

My experience with electricity as a therapeutic agent has been almost exclusively with Jerome Kidder's Faradic six-current electric machine, with four coils and Smees's cell.

A. D. Rockwell, electro-therapeutist to the New York State Women's Hospital, and member of the American Neurological Association, says in his lectures on electricity in relation to medicine and surgery: "The success achieved in the treatment of neuralgia by electricity has been most brilliant. While failures follow the most skillful manipulations, and exacerbations of pain not infrequently result from careless and ill-directed applications, it is safe to say that the great majority of neuralgias, not dependent on serious organic lesions, yield readily to the proper electrical treatment, and in many cases the distressing pains, dependent on central structural changes, are greatly alleviated."

One of the worst cases of spinal lesion it was ever my fortune to treat was in the person of Wm. R. Evins, who was thrown with great violence from his buggy, near Manhattan, in consequence of his team running away. I first saw him four years ago, and about one year after the injury. He was in constant pain, the lower limbs were partially paralyzed, and he could only move by the use of crutches, with a dragging motion of the limbs. Dr. M. O. Baldwin treated him for one year with the electro-medical battery, Faradic current, with great relief of pain, and a constant improvement in locomotion. Dr. B. finally left the place, and I had charge of the case about six months, using the electric machine daily. Thirty minutes application invariably relieved all pain, and he would get a good night of sound, refreshing sleep if used just before bed-time. He improved so much that he threw away his crutches, and walked quite well with only one cane. The electric

treatment gave more relief than all other remedies combined. He finally left our place about two years since for some place near Chicago, Illinois, since which time I have heard or known but little about him.

Case Second.—Called on the morning of December 27, 1880, 4 o'clock A. M., to M. S., aged 24, of fair muscular development, and naturally a good constitution; had never been sick a day in his life; had been section hand on the U. P. Railway, and for the last two weeks had worked in the Wamego yard, and had lifted heavy railway iron and bridge timber many times in the day. The night of the 26th he went to bed in his usual health. Was roused from sleep about midnight with severe pains running down both arms. The pains continued to grow more severe up to my arrival, when he complained of a dragging or pulling sensation from both shoulders. I had with me a sixteen-grain to the ounce solution of morphine, and I immediately gave him half a grain hypodermically, and in one hour repeated the same dose, with the result of allaying all pain.

The next morning I found him with incomplete paralysis and anæsthesia of both arms, with a burning, scalding sensation running along the fore-arms and hands to the ends of the fingers. No electric sensibility or tenderness on pressure along the spine. Every symptom at this time indicated spinal lesion.

Professor Rosenthal, of Vienna, in his work on nervous diseases, Wood's Library, page 269, says, in Radcliff's case, both arms were alone involved in the paralysis and anæsthesia. This incomplete paralysis proved that the lesion was in the lateral half of the cord, was only partial, and situated high up towards the cervical region.

Pulse, temperature and secretion nearly normal. The pain was so intense for the first twenty days that he required from half to three-fourths of a grain of morphine, hypodermically, night and morning.

At the suggestion of Dr. S. E. Sheldon I gave, with the morphine, from one-fortieth to one-fiftieth of a grain of atropia at each dose, with quite an improvement in the action of the morphine.

The treatment appeared to have but little effect, aside from allaying the pain. I gave him John Wyeth's compressed powders of salicylate of cinchonidia and belladonna and ergot. The magnetic battery used at night invariably relieved pain and unpleasant sensations. As he passed through the acute stage the pain became less, until, at the end of ten weeks, I discontinued the morphine. At this time he has the partial use of his hands, and is slowly gaining.

Case Third.—Presiding Elder Davis came to my office about two years ago, on two canes; had been in constant pain for the last two weeks with sciatic neuralgia; said he had seen no rest night or day. I proposed using the magnetic battery, and applied the negative pole to the feet and the positive electrode over the lumbar phlexas, and down

the course of the sciatic nerve. In five minutes he said he felt relief; in ten he was perfectly easy. This application was at 3 o'clock P. M. and continued about fifteen minutes, at the end of which he went to sleep and slept until night, when he was waked, had his supper, and I used the battery for about fifteen or twenty minutes. He slept well all that night, had no pain in the morning, threw away one cane and went on with his quarterly appointment, and informed me some months after that he had no trouble from the time I used the battery.

Case Fourth.—H. D. McMeekin, the pioneer landlord of Kansas, went to Colorado two years ago last September; was caught in a snowstorm near the summit of Pike's Peak; next morning both knees were numb and stiff; says he has used a great variety of remedies with no relief; came to Wamego one year ago; has been confined almost constantly to his house; could not rise from his chair until he had made two or three efforts, and then had to use both hands, with the assistance of a cane; I gave him salicylic acid and cimicifuga with no relief. About two weeks ago I commenced the electric treatment. The next morning he came to my office and said he was much better. After the second application he could rise from the chair without cane or using his hand to assist. The electric treatment has removed the numbness and stiffness of the knees, and from present indications I believe it will effect a perfect cure.

My experience with the electro-magnetic battery has been extremely satisfactory. While in some cases it has given immediate relief, in others it has signally failed.

The three great forces of nature are heat, light, and electricity. All three, in due proportion, must be present in order to produce and maintain in health all animated nature.

The various conditions under which electricity is manifested enable us to apply it to a variety of morbid conditions. Its wonderful decomposing power has been utilized by the surgeon in electro-caustic operations. Coagulation, in the blood of living animals, takes place at both poles of the battery, and this circumstance has been taken advantage of in the cure of aneurisms. The method employed is to introduce needles into the sack and allow the current from a galvanic battery to pass until the surgeon judges a sufficiently large clot has formed to effect a cure. Vascular tumors and morbid growths are treated in the same way.

Electricity used in cases of suspended vital function illustrates its beneficial effects.

Case taken from *Medical and Surgical Reporter*, reported by Edward C. Harwood: Infant aged 19 days; had been narcotized by morphine; was relieved by means of the Faradic battery.

Case reported by Prof. W. H. Pancoast, *Medical and Surgical Reporter*, May 9th, 1874: The patient had taken 120 grains of chloral and

eight grains of morphine; the battery was used fourteen hours, and saved life.

Case reported in the *Virginia Medical Monthly*, May, 1874: Resuscitation after thirteen and a half minutes of apparent death.

At a meeting of the College of Physicians and Surgeons, New York, March 11th, Dr. L. A. Sayre exhibited a string of beads, one of which had been taken from the trachea of a child seven years of age. She was relieved by tracheotomy. She coughed out the bead, gave one inspiration, and died. Alcohol was injected into the rectum and the galvanic current passed through the phrenic nerve; she immediately rallied, and had no more trouble.

For years the therapeutic use of electricity was in the hands of charlatans, and almost entirely ignored by intelligent practitioners of medicine and surgery. But great changes have taken place, as Faraday and others made rapid advances in electric science. Majendie, Marshall Hall, Claude Bernard, Brown-Sequard and others have brought to light the hidden intricacies of the nervous system, and to-day many of the most eminent and gifted in the profession of medicine and surgery are devoting their talents and energies to the therapeutical effects of electric force in the treatment of disease.

LISTER'S ATMOSPHERIC FERMENT.

BY EDMUND D. CONVERSE, M.D., BELOIT, KANSAS.

Antiseptic surgery has been discussed so much of late that there is scarcely a chance to advance a new idea on the subject. Mackintosh has written the subject up thoroughly, and published his work some months ago. There are many eminent surgeons in Europe who are opposed to the antiseptic method, as well as many who are in favor of it, especially with some slight modification.

No one can deny the fact that Lister has really revolutionized the treatment of wounds.

The only way to put the question *now* is like this: Which do *you* consider the best method? Would you yourself, in case of a compound fracture, wish to be treated by the open water dressing, or do you still adhere to the usual cerate and lint closed method; or, being of a more modern frame of mind, would you rather be treated antiseptically?

In the compound fracture just spoken of there is attained, incidental to the injury, a wound disease, which wound disease plays an important part in tables of mortality, as is well known in hospital statistics.

The St. Louis *Clinical Record*, for April, has an article written by

Louis Bauer, in which he makes the statement that fifty years ago Stromeyer taught that *subcutaneous wounds*, as a rule, heal without suppuration.

The bad effect of the atmosphere on open wounds was well known at an early date. I may mention here Jules Guerin's hermetically closed india-rubber dressing, with suction apparatus.

In 1765 the Florentine, Vacca, published a work, "Liber de inflammationis morbosæ quar in humano corpore fit, natura, causis, et curatione;" and Vacca, who knew that decomposition is only possible when air has access, spoke of antiseptic measures in the treatment of wounds, and ended with the proposal to cover the amputated stump with oiled linen, to place over this a leather cap, and to inclose the whole in a glass bell, with an air-tight rim. This proposal has probably never been carried out, but it shows *how long* the idea of bad effect of air has occupied the attention of surgeons.

After it had been proven that air played an important part in wound disease, the deleterious effect on open wounds was at first attributed to the access of oxygen to the wound, and surgeons at that time, and afterwards, generally accepted the view that oxygen was the cause of suppuration in open wounds.

Before the water dressing came in vogue the usual method, recommended by Astley Cooper, of letting the eschar of blood and lint dry without any disturbance of the wound, till the third or fourth day, was used, and is to this day used by those who hate to move out of the old rut.

Van den Brock, in 1859, published a paper, the result of experiments, on the putrefaction of uncorked animal substances. The conclusions he arrived at are:

1st. Oxygen has no influence either on the fermentation of the juice of the grape, or on the putrefaction of animal matters.

2d. It is an *organized ferment* which produces putrefaction, without the aid of the atmosphere, except in so far as it is the *vehicle* of the ferment.

These experiments were followed in 1860 by H. Schroeder, who published an important paper on the *filtration* of the air in reference to putrefaction, fermentation, and crystallization. In his experiments he proved three points:

1st. That fresh albumen mixed with water and brought to the boiling point in a bottle, which was afterwards closed with cotton wool, did not decompose after being examined on the 28th day, but was found fresh and unchanged.

2d. That it did not putrefy sooner than when it had, perfectly fresh, been from the commencement so exposed—which was always on the ninth day.

3d. He showed that a stream of ozone passed through it during sev-

eral hours each day did not leave a trace of putrefaction, or any organized beings in the mixture after twenty-eight days.

He afterwards proved that air passed through a red-hot platinum tube, did not possess the agents of fermentation or putrefaction; showing that intense heat and the cotton-wool filter would rid the air of the agents of decomposition.

M. Pasteur is a man to whom antiseptic surgery owes a great deal, as about this time he made extensive experiments with a view of testing the truth of the discovery of Schroeder; but his researches were mostly confined to vinous fermentation. He first discovered the yeast plant and its budding process of germination. His perseverance and untiring energy are commendable. His experiments confirmed the conclusions of Schroeder, and established the fact that the air contains, as it exists in nature, microscopic organized corpuscles, which he showed by filtering it through gun cotton, dissolving the gun cotton in ether, and then examining the precipitate with the microscope

When an organized infusion has been deprived of germs by heat, and is mechanically protected from corpuscles which the air might carry to it, it is as unalterable as an ordinary chemical solution of a mineral. Liquids ordinarily the most prone to ferment show no tendency to decomposition; no symptom of life is manifested.

It is quite clear from Pasteur's experiments, therefore, that the development of living beings in organic infusions is not spontaneous, and that in the circumstances under which fermentation ordinarily takes place the germs of the living organisms are carried in the atmosphere.

Pasteur showed also that air taken from extreme altitudes of Mont Blanc contained scarcely any germs, while in the valleys, and in the vicinity of large towns and cities, the air was filled with them.

The germination of inferior organisms as powerful *agents* of decomposition has relations as important to the putrefactive as the fermentative process. Whenever organic matter undergoes change, dies, is decomposed, putrefies, germs are sown which find their nourishment in the remains given up to destruction. It seems that without these germs the principles of living bodies would be almost indestructible, and that *with* them everything which has ceased to live is returned to the mineral kingdom.

Prof. John Tyndal showed that fresh blood, urine, milk, as well as different varieties of animal tissues and vegetable infusions, have remained unaltered for three years after being open only to air which had been deprived of germs; but when these liquids were exposed to ordinary atmospheric air they very soon became covered with bacteria, micrococci, ameba and monads, and were filled with moving vibros, as were shown by the experiments of Pasteur.

The bacteria which Lister gives as the causes of suppuration and

septicæmia in wounds are described by M. Davaine as differing from the whole class of infusions which form in putrefied matter, and that they are rapid consumers of oxygen. They consist of minute, straight, extremely fine filaments, varying in length from four to twelve-thousandths of a millimeter, and have no spontaneous movement whatever. M. Davaine was at first disposed to consider them as belonging to the filiform infusoria, the bacteria or vibriones, from which they differ only in the absence of movements. He now believes them to be a well-defined species, resembling the filiform protozoa by their mode of generation and propagation; he proposes to term them provisionally merely bacterides.

M. Trousseau, in commenting on the spread of puerperal fever, states that these germs and ferments may not be developed as readily in some patients as in others, because the conditions of their reception vary infinitely. They individually require conditions favorable to their development.

Lister's antiseptic method of treating wounds has been practiced more generally in Germany than in any other country, and in no other has it been submitted to a more searching test. German surgeons of to-day claim that the entrance of atmospheric germs into fresh wounds is not admitted as cause of infection and putrescence; to be effective the air must have been vitiated, and the germs developed into bacteria or micrococci.

Besides the atmosphere being the vehicle for germs entering the wounds, there is the contact infection by the hands of the surgeon or assistants, unclean instruments, sponges, or articles used for dressing the wound. Germs may be this way introduced into the wound directly, in a state of advanced development, and thus fully prepared for propagation.

It is claimed of late that weak solutions of carbolic acid do not destroy the bacteria; that the microscopic organisms will not develop and propagate in such solutions, not because of the carbolic acid, but because they find no material to feed upon, and that if the air is permeated by germs, as is affirmed, it is impossible to prevent them from entering wounds; that the spray is not only inefficient in keeping the germs from the wound, but rather favors their entering, and is dispensed with during operations by not a few, and Bilroth and Esmarch are among them. They are talking of carbolic poisoning, and Esmarch generally dispenses with the Mackintosh and protective silk.

In 1877 there appeared a praiseworthy monograph, with statistics, by Professor C. Thiersch, on the clinical results of the Lister treatment of wounds, and on the substitution of salicylic acid for carbolic acid. In speaking of the effect of salicylic acid on the germs of the wound, he says the difficulty lies, not in the examination of the cellular forms, and of the fragments of tissue, but in the granules, which exist

from the smallest diameter recognizable, even with powerful immersion lenses, up to the sizes of the larger spherical bacteria. I have, he says, not found that they differ from those met with in wounds treated by the open method, or water dressing. They are partly difficult to distinguish, on account of weak refraction, and exhibit partly the strong refraction of fat. They present themselves in largest quantity, so as to cover almost entirely the whole field of the microscope. They almost all have a molecular movement. With this tremulous movement, however, they do not change their position, except when a current exists, which they follow unresistingly, however weak it may be. A part of these are dissolved by acetic acid, of the remainder by liquor potassæ; also sulphuric ether, after long contact and warmed, dissolved another part. Are these, therefore, bacteria, or are they perhaps inorganic deposits in a molecular form?

He states, also, that after examining the secretions after the salicylic acid dressing has remained on for a few days, he observed very fine rods in a state of oscillation, which disappeared in acetic acid or liquor potassæ, and among the rod-like corpuscles he found pretty large ones, of a yellow color, and joined together to the number of three or four, in the long direction. The blood discs become clear in the center, while the sharply defined outer zone remains yellow. In other respects the microscopical contents of both the carbolic acid and salicylic acid dressing, after being applied, agree with those of ordinary healthy wound exudation.

In the "Centralblatt für Chirurgie," 1874, No. 13, Dr. H. R. Ranke is the author of an article on Bacteria Vegetation, and in it states that he has frequently found in the clinical wards at Halle, and even during the favorable course of healing in wounds, with carbolic acid dressing, distinctly characterized and further developed forms of bacteria.

In the case of the carbolic dressing it is now certain that when unchanged for a long time, the amount of carbolic acid becomes too small, by evaporation, and when once the first critical period of healing is passed the appearance of bacteria may, in most cases, be innocuous.

Prof. Thiersch states that with *moist salicylic acid* dressing, bacteria cannot thrive at all.

So much for the microscopic examinations of the antiseptic dressing of phenic and salicylic acid solutions, which go to prove that the dressings do not preclude the presence of bacteria, but hinder a further development and an active part in the producing of wound disease.

I find, in studying this subject, there are problems unsolved; for example:

1st. Are bacteria the only causes of decomposition?

2d. Are there different kinds of bacteria, or only different stages of development of one kind?

3d. Are bacteria deleterious? Do they act deleteriously in themselves, or mechanically, or as poisonous matters?

4th. Can they decompose directly the fluids of the body, or do they require a soil prepared for them by pathological process?

After these problems are solved we will be better able to study the methods of attacking and defense from these curious and almost invisible bacteria and their germs in the atmosphere. Whether with carbolized putty, spray, jute, gauze, and numerous protectives we endeavor, with all our zeal, *to keep them out*, and with phenic, salicylic, tannic or boracic acids, eucalyptus and zincic chloride we resolve to exterminate them *in the wound;* or, perchance, pausing in our determined work, after due deliberation, having discovered our mistake, we may even *strive to further their welfare* and feeling more wise after our learned experience, having judged ourselves unskilled in the art of cleanliness, try to master that art, and study to keep the denuded surfaces pure in the making, handling and dressing of wounds.

FEVER, AND ITS ANTIPYRETIC TREATMENT.

BY G. R. BALDWIN, M.D., FORT SCOTT, KANSAS.

The pathological condition denominated fever is one of the most common the physician is called upon to observe. It enters either as a symptomatic or essential element into the history of nearly all diseases; and for ages, aside from inflammation, has been the subject of more diligent research and learning than any other connected with medicine. I ask your indulgence in presenting so threadbare a subject, and especially as I can lay no claim to originality in that which I shall present for your consideration.

In the State in which we live a very large preponderance of the diseases we are called upon to treat are classed among the essential fevers; and in view of the fact that the most diverse opinions have been and still are held, both as regards their pathology and treatment, I have thought it would not be time unprofitably spent in reviewing our present knowledge of the subject.

In order to do so properly, it will be necessary to repeat that which is familiar, and also to enter into the uninviting details of therapeutics. The dogma of Galen, advanced eighteen hundred years ago, that fever consisted of an abnormal elevation of temperature, is now generally accepted as a fact, and most recent authorities agree that the various phenomena observed are due to the elevated temperature. It is controverted, however, by a few recent observers, and possibly the chang-

ing waves of medical opinion may, in the future, modify the accredited views held at present.

Liebermeister expresses himself in the following terms: "By far the greater number of those who succumb to typhoid fever, die from the effects, directly or indirectly, of the fever heat. In the hospital at Basle, among 210 fatal cases that occurred during the years 1865 to 1868, there were eighty in which death resulted from paralysis of the heart, without any special complications (except edema of the lungs, dependent on the paralysis); or paralysis of the brain (without any of the coarser anatomical changes being found in the encephalon). It appears, then, that forty-one per cent. of the deaths are due to the direct influence of an elevated temperature; and in the remainder this same influence has a share in producing the complications, or in bringing about the fatal results. If we could guard our patients against the deleterious influences of excessive animal heat, typhoid fever would no more belong among the especially dangerous diseases." Many of the pathological lesions that occur in typhoid fever are common to all the essential fevers, hence the same principle must hold true of them all.

Dr. Wm. Cayley, in a recent publication on typhoid fever, after referring to the tissue degeneration that occurs, says: "Since this wasting or degenerative process is so frequently the cause of death, and is immediately due to the high temperature, the febrile process or phenomena becomes the most important consideration in the pathology of the disease." After the elaborate research of Dr. H. C. Wood, he gives in substance the following proposition: "Caloric in an excess acts as a direct poison to the body, and the phenomena of severe acute fevers are largely due to the heat itself." The tissue metamorphosis and *parenchymatous degenerations* are caused by the abnormal heat; and the gravity of fever is measured by its height, diurnal variation, and continuance. According to Liebermeister's statistics, in typhoid fever, when the temperature was under 104° Fahr., the mortality was 9.6 per cent.; when it reached and passed 104° Fahr., the percentage of mortality was 29.10; and if the temperature rose to 10 5.8°, the mortality was greater than one-half. The parenchymatous degeneration that most affects the welfare of the patient manifests itself upon the heart and brain; hence, in fatal cases, the large percentage of deaths is due to paralysis of one or the other of these organs.

Our present so-called antipyretic method of treatment is a natural sequence of this theory of fever. It undoubtedly rests upon a more scientific basis, and is more extensively accepted, than at any previous time in its ephemeral history. We should not be unmindful, however, that it has had able advocates for ages. You are all familiar with the earnest manner in which Currie advocated it in England at the beginning of this century. In our own country Nathan Smith was hardly less enthusiastic, but the teachings of such a genius were ap-

parently unheeded by his cotemporaries. If it stands the test of time, and occupies a permanent position, it has got to receive the diligent, objective and statistical study of the general practitioner. The various antipyretic measures that are now mainly relied upon, are cold water, quinine, salicylic acid, digitalis, aconite, and veratrum viride. It is generally conceded that cold water has the most general application, and that we can withdraw any desired amount of caloric by its use. The cold bath, at about 68° Fahr., is the most efficient, and is adapted to vigorous adults. The German hospital method is to give the bath whenever the temperature reaches 108° Fahr., to continue it about ten minutes, and repeat as often as is necessary to keep the heat under this point. In severe cases the bath is given as often as every two hours. During the interval the patient is lightly covered, and wine given if the reaction is not good. In feeble patients and in children, Ziemssen's method is used. It consists in gradually reducing the temperature from 95° Fahr., to the desired point. The shock produced is very much less, and the patients remain in the bath longer. In our private practice these methods can seldom be used, owing to the want of proper facilities, and as they require the personal attention of the physician or a trained nurse. In fact, I consider that the personal supervision and watching that the use of cold water involves, while it has nothing to do with its efficacy, still most endangers its permanent use as an antipyretic; its judicious and proper use must consume more time than we are in the habit of giving to the details of treatment.

The cold pack, or wet sheet, stands next in value to the bath, and in private practice must be our main reliance. While it is not so decided in its effect, the contra-indications to its use are not nearly so numerous as to the bath. It is capable of various modifications. The trunk and thighs are wrapped in a sheet wrung out in cold water at a temperature of 65° to 70° Fahr. The sheet should be sprinkled as fast as heated. The effect can be increased by sponging the entire head and face in ice-water. The slight growth of hair in children gives a large surface that can be used thus beneficially. The temperature of the water must be varied somewhat to meet the indications of each case, a vigorous adult requiring a lower temperature than the more feeble. In using the pack with children, the method employed by Ziemssen in the bath can be applied beneficially. First wetting the sheet in water at 95° Fahr., and sprinkling with gradually cooled water, thus avoiding the struggle they so frequently make when subjected to a temperature very much lower than the body. The length of time the patient is to remain in the pack must depend upon age and strength, the urgency of the symptoms, and upon the effect produced. You are probably all familiar with the practice that has been carried out in Bellevue Hospital, New York, the past winter. The packs were continued several

hours, and whenever chilliness was complained of the patient was covered. When the chilliness ceased the sprinkling was resumed. In one instance the pack was continued ten hours. Stimulants were given pretty freely.

Of all the devices for giving the cold pack with which I am familiar, Kibbe's cot is the best. It consists of the ordinary cot frame with a double bottom; the top one is composed of netting, upon which the patient lies, and admits of the water passing through readily. The under one is rubber cloth, and drains the water into a vessel placed at the foot. But, unfortunately, in private practice one is seldom at our disposal. The principle, however, can be applied without much trouble. A pallet can be made on the floor, if it is destitute of a carpet, and the heated water absorbed with a sponge. If a large rubber blanket is at hand, the patient can remain on the bed, and this placed underneath, thus protecting the bed. The comfort of the patient requires that the bed should be kept dry. The power of the pack depends upon its thorough use. It involves a great amount of labor and attention; but if the claims set up for antipyretic treatment are nearly true, it becomes our duty to carry out its details, however onerous. Cold affusions are said to have very little effect upon the internal heat of the body. They stimulate the respiratory act, and may in this manner be useful. Cold sponging, with very lean adults and children, has, in my experience, a very decided effect; with them the non-conducting median is very limited, and the abstraction of caloric more easily accomplished.

Very recently I had under treatment a child with lobular pneumonia. The temperature was very high, and cold sponging of the entire head, face, neck and upper part of the chest, was invariably followed by a decided lowering of the temperature.

With fat persons, the large non-conducting surface prevents the withdrawal of a perceptible amount of heat by this method, but in children I think it has a very extensive application.

The real or supposed contra-indications to the use of cold water endanger its permanence as an antipyretic measure. The proper selection of cases requires a discriminating and deliberate judgment. It is a measure that is capable of doing very great harm as well as very great good. It cannot be formulated into a mathematical problem: given, the disease and temperature, the solution follows. Probably many of the contra-indications to the vigorous use of cold water as an antipyretic measure are yet to be learned. In childhood and old age, in the feeble of all ages, and in cases where grave organic lesions coëxist, it probably has a limited use as an exclusive measure. The enfeebled action of the heart, that we have in the later stages, especially of most acute diseases, renders it inadmissible usually, the reaction in this condition being incomplete. This is a contra-indication that we frequently meet. Medical opinion generally, is against the use of cold water as an antipyretic

in acute diseases of the respiratory organs, and the popular prejudice we all know.

Liebermeister says that (in typhoid fever) "pneumonia, hypostatic congestion and the like, offer no reason for suspending the baths; the hypostatic troubles sometimes disappear under their use."

Prof. Jorgensen, the author of the article on "Croupous Pneumonia," in Ziemssen's Encyclopædia, gives it enthusiastic and unbounded praise in the treatment of pneumonia. According to his statistics, the mortality at the Basle Clinique was reduced 9.6 per cent. under cold baths. I quote his somewhat graphic description of the treatment of his own child: "Several years ago I was much impressed by the extent to which the baths can be used, as shown in the case of my own daughter, then only nineteen months old, who for the third time within a brief period, was attacked with a severe pneumonia. The temperature rose above 105.8° Fahr., and returned so quickly after baths of 60.8° Fahr., that I found myself compelled to reduce the temperature of the water to 41° and 42.8° Fahr., and continue them for ten minutes. My child recovered, and at no time during the employment of these extreme measures, extending over several days, was there the slightest indication of collapse. Since that time I have repeatedly treated patients in this manner." He insists upon the free administration of wine before, during, and after the bath.

From a friend, lately returned from Germany, I learn that the cold-water treatment is generally adopted in the fevers of nearly all inflammatory diseases.

Professor Flint has recently treated several cases of pneumonia by the wet sheet, and the following are the remarks he made to his class of medical students: "Gentlemen, as bearing upon the treatment employed, these cases have for me, as I doubt not for you, much interest. They certainly show that in cases like those which were selected, the treatment is not hurtful. More than this, they render probable the inference that the disease was controlled and brought speedily to a favorable termination by the treatment. It remains to be determined by further observation how often and to what extent this method of treatment has a curative efficacy." We are accustomed to recognize this authority as eminently conservative.

I recently treated a young man for pneumonia, where the temperature suddenly rose on the morning of the seventh day to 105° Fahr. Five hours of constant sponging of the head and chest reduced the temperature to 102° Fahr., above which point it did not again rise, and his convalescence was speedy.

A contra-indication that posseses more interest to us than any other is a tendency to internal hemorrhage. In the continued malarial fevers, that we are called upon to treat, hemorrhage is, in my experience, of frequent occurrence. It is favored by the disintegration of the blood

that is peculiar to the disease, and may occur from the intestines, stomach, kidneys, and other organs. The use of cold favors the determination of blood to these organs, and thus may act as one of the factors in producing the hemorrhage. I believe that cold has a very limited use in the low, adynamic forms of malarial fever. My own experience has been very unfavorable to its use, owing to the occurrence of hemorrhage, and I now mainly rely upon other antipyretic measures. I am aware that individual opinion, unsustained by statistics, can have no great weight, but I think I have seen hemorrhage occur too often, after the use of cold, to make it coincidental.

Quinine has long been used as an antipyretic, but there is a diversity of opinion as regards its efficacy. Liebermeister says: "I myself have used it as an antypyretic since 1858, but I never dared to use as large doses as are necessary for a powerful antipyretic effect, until after the communications of Vogt. Since then I have hardly treated a severe case of the fever (typhoid) without quinine. . . . If I were forced to the unpleasant alternative of adopting only one or the other of these two measures—cold water or quinine—I should in a majority of cases choose the latter."

Dr. H. C. Wood, Materia Medica, observes: "The drift of our present clinical evidence seems to indicate that quinine exerts in febrile diseases a decided antipyretic action, which is especially manifested during those stages of disease in which the natural tendency is towards a lowering of temperature." Such authorities as Niemeyer, Barclay and Hughes Bennett are adverse to its general use as an antipyretic.

In our own country it is the most used as an antipyretic in the South and West. Its successful use by the physicians of these localities is said to be owing to the malarial conditions, but it is more probably due to the fact that they have long been accustomed to its use in antiperiodic doses, and have not got that *a priori* dread of administering such doses as are necessary for an antipyretic effect. Liebermeister asserts that he has given ten thousand doses of quinine as an antipyretic, and has almost unbounded confidence in it. Certainly the malarial element could not have influenced his experience. It is generally admitted that it must be given in large doses. From twenty to forty grains must be given at once in order to get its full effect. It is eliminated rapidly in the urine; and in small doses, given at intervals, the accumulated effect is not produced. I believe there is a remarkable tolerance of quinine in hyperpyrexias, that is not generally taught.

Dr. Fordyce Barker writes in a paper on "Puerperal Malarial Fever," read before the Medical Society of the county of New York, January 26th, 1880, and reported in the *Medical Record:* "The tolerance of quinine in these cases is very remarkable. One patient received eighty grains hypodermically within twenty-four hours, and yet no symptoms of cinchonism was produced." In the discussion which followed, Dr.

Wm. H. Hall said: "The tolerance of quinia was remarkable; no symptoms of cinchonism being produced while the patient was taking 150 grains in twenty-four hours." My observation has been that children tolerate large doses. A child from three to five years old can be given ten grains without producing any unpleasant effects. Owing to its bitter taste, a good plan is, with children, to dissolve the dose in two or three drachms of water, with the aid of diluted sulphuric acid, and given by rectum. The reduction of temperature produced by quinine is more lasting than when effected by water. Usually it will only be necessary to give one dose in twenty-four hours.

In the fall of 1879 I treated a patient for an exceedingly low, adynamic form of continued malarial fever, complicated with severe hemorrhages. The antipyretic treatment consisted of average doses of thirty grains daily for thirty-six days, except that it was occasionally omitted for a day, at the end of which the temperature invariably rose, and was reduced by the subsequent dose. There was no cinchonism at any time. A weak heart is said to contra-indicate the use of quinine, but those of us who have witnessed the effect of a drachm dose in algid pernicious fever will not be apt to so regard it. Paralysis of the heart may be imminent, but as the very excessive heat is reduced, the action of the heart gradually gains in strength. Quinine has probably received a permanent reputation as an antipyretic. The dose must be large and promptly given, but an amount exceeding forty grains will seldom be required. After Liebermeister's vast experience, he thus expresses himself: "I do not consider the effect of a dose of quinine as entirely satisfactory unless it reduces the temperature to nearly a normal standard, that is, 100.50° in the rectum. If this is not done by the first dose, I increase the next one. If, on the contrary, the first dose reduces the warmth to 98.50° Fahr., or below, a not very uncommon occurrence, then the next dose is diminished."

Salicylic acid has now been extensively used as an antipyretic. There is a diversity of opinion both as regards its utility and propriety. In the *American Journal of Obstetrics* for April, 1881, are published the opinions of Dr. J. Weiss: "Sodium salicylate, in typhus diseases of children, is a better antipyretic than quinine, cold baths, cold packs and mineral acids. Its action is most decided when large doses are given at short intervals. He has seen no bad consequences from it. 2. In diphtheria it has no favorable influence. 3. In acute inflammation of the joints it rapidly diminishes the fever and the pain. 4. In intermittent fever it only works when given immediately before the attack, and when the remedy is stopped the fever returns."

The following experience of Dr. Fer. Grigoriantz is published in the *Medical Record*, vol. 18, No. 7: "Sixteen cases of typhus fever were treated with very beneficial results. In no case was there violent delirium, and only one patient suffered from a mild delirium; the action

of the heart became stronger. All the patients recovered, and left the hospital after an average stay of twenty-five days, looking remarkably vigorous. No injurious effect was observed on the kidneys, but in one case the face became œdematous. Two ounces of salicylic acid were administered in the course of twenty-four hours."

In a clinical lecture, delivered by Dr. Murchison, and reported in the *Medical Record*, vol. 15, No. 14, he gives sodium salicylate unbounded praise in rheumatic fever, and in other fevers admits its antipyretic effect, but does not favor its use. In diseases of the respiratory organs, with children, it is warmly advocated by some high authorities. Like quinine, it should be given in large and prompt doses. The following is Dr. Murchison's method of administration in rheumatic fever, obtained from the source quoted: "It [sodium salicylate] should be given at the very first in large doses, frequently repeated, twenty grains every two hours until six doses have been taken. The temperature should be noted each time a dose is given. After the third dose the temperature will begin to fall. By the time the sixth is given the temperature will usually be normal. Occasionally, to effect this, another dose or two will be necessary. For several more days it is to be given every six hours."

One authority has been quoted who gave two ounces of salicylic acid daily. The objections urged against it are that it sometimes dangerously depresses the heart, and causes delirium and albuminuria. It is a potent remedy, and probably like others, requires discrimination in its use. It now occupies a position as a drug, second only to quinine in its antipyretic effect.

Digitalis, aconite, and veratrum viride each has antipyretic properties, but they lower temperature at the expense of the heart, and for this reason they must have a restricted use. In view of the somewhat unsettled opinion of the therapeutical effect of digitalis, I quote Liebermeister: "The rule for its application is just the opposite to what it is in diseases of the heart; now the more frequent the pulse, the less is digitalis indicated. The impending paralysis of the heart is not prevented by the use of this drug, but seems rather to be favored thereby."

I will not occupy your time with statistics bearing upon the success of the antipyretic treatment of fevers. As you are aware, they are mainly very favorable. It is no argument to decry "continental statistics." Statistics must be met by statistics. Observers who have had the most experience are its warmest advocates. While there are controverted points in the pathology of fever, we cannot expect a uniform or perfect practice. The subsequent researches of the physiologist may make such a desirable consummation possible. With our present knowledge of the lesions of fever, and the intricate process by which the heat of the body is maintained, we will probably do best to usually combine the various antipyretic measures now in use. Qui-

nine and the cautious use of cold water, most nearly fulfill the indications obtained from our present knowledge.

It is not every hyperpyrexia that requires antipyretic treatment, and the history of medicine amply demonstrates that nothing so soon brings a remedial measure into disrepute as the making of it a hobby. The intrinsic tendency of fever is to self-limitation and recovery, and when we support the failing strength, meet complications, and attend to the personal comfort of the patient, we shall frequently have done all our duty calls for.

I am aware that I have experienced physicians for my audience, and that what I have said is trite and commonplace; but the subject is one of such everyday importance that I have relied upon your indulgence. I have made free use of whatever I have found written upon the subject, thinking it would subserve your interest.

SOME THOUGHTS ON THE PSYCHICAL AND PHYSICAL FORCES, PHYSIOLOGICALLY DISTINGUISHED.*

BY A. H. LANPHEAR, M. D., ATCHISON, KANSAS.

"Nature is but another name for an effect
Whose cause — is God."

When we seriously attempt to study ourselves and our surroundings, and to fathom the mysteries of our being and its relations to the world around us, our minds are at first dazed and bewildered at the magnitude of the task and the vastness of the field of observation. But if we persist with systematic thought, and intensity of purpose, there gradually emerges from the mental haze the legend: *Within and without all is life, activity, death, ceaseless change.*

This, at first sight, may not seem to advance us much in knowledge; yet when we inquire, what is life? in what consists this activity? wherefore these ceaseless changes? what is death? we at once realize that we have reached the plane whereon rest the very sources of that knowledge whose hidden springs so often elude our mental grasp.

* The writer desires to state that this paper was prepared amid the frequent interruptions incident to the daily round of professional duties, and without thought of publication. The materials used in its preparation were derived largely from a course of reading which, under the circumstances, could not be, in any sense, critical. He has availed himself liberally of the *ideas* of the authors consulted, and, frequently, of their *exact language*. In the latter case it has been his aim to give the proper credits by quotation-marks and reference. When it has seemed appropriate, references have been embodied in the text; in other cases the reader is referred to notes at the end of the paper.

Whether we contemplate the objects and phenomena of inanimate nature, or the forms and functions of living organisms, the same moving panorama of ceaseless change is presented to our view—the planets revolve, all nature moves, and countless living forms are organized, through the harmonious action of the positive and negative forces which govern the elements of matter. When the equilibrium is temporarily disturbed, motion is sure to become irregular, uncertain, and destructive. When the generation of electricity is more rapid in one place than in another, the atmospheric balance is liable to be interrupted. Electrical currents first move towards the negative regions of the earth and atmosphere, the air is put in motion in the same direction, tempests arise, and the wild rush of the elements, in seeking their equilibrium, often spreads ruin, like a mantle of darkness, over stately forests, smiling fields, and the abodes of men. In like manner, when the explosive gases are suddenly ignited by electric forces and chemical fires in the deep bosom of the earth, proud cities are demolished, continents are rent asunder, islands arise, like bubbles, in the midst of the sea, and the great globe itself trembles beneath the terrible pulse and gigantic tread of the earthquake!

In every part of the natural world the philosopher recognizes more than is immediately comprehended in our organic perceptions. [1] The outward phenomena are but expressions of the energy and activity of inward forces; whilst the human body may be regarded as a living revelation of the indwelling soul. In the processes of organization the separate particles assume their places under the action of inherent forces; the atomic polarities and their mutual relations being determined, proximately, by the subtle forces, and in the ultimate analysis by the Supreme Intelligence. These potential energies reside in all matter, but are disclosed to us only through the outward evidence of perception. The process of development and growth, and the structural peculiarity of each separate form, are dependent on the energies inherent in the simple elements, as illustrated in the great laws of organization and life. Every particle is at once an exponent of its own affinities, and the conditions of its associations with other particles; hence the physical, visible world is the phenomenal exhibition of that superior realm which comprehends the active forces, and the eternal laws of the universe. The mineral, vegetable and animal kingdoms are succeeding and progressive revelations of those invisible principles that pervade all substance, and pictorial illustrations of the Divine Life that animates the world.

If we are right in entertaining the idea that all outward developments proceed from inward principles or forces, it may be inferred that our essential manhood is invisible and spiritual. But whatever may be our idea of the nature of the mind, we are constrained to acknowledge its supremacy over the realm of matter.

While the body is a delicate corporeal machine or instrument, with particular organs adapted to specific functions, the psychical powers of our being all meet, and unite in consciousness, having their organic center in the brain. Therefore, we may safely assert that our highest psychical powers are exercised through the instrumentality of the cerebrum; but of the precise nature of the connection existing between the mind and its instrument, no uniformly accepted explanation has been given. Nevertheless, the close relation which obtains between psychical and physical states has led some able investigators to assert that the mind is simply a secretion of the brain, as truly as is the bile a secretion of the liver; that it is simply the expression of organic changes in the cerebral structure; that man is simply and only a machine; that his career is determined by his original constitution, modified subsequently by conditions over which he has no control; and that his self-determining power is altogether a delusion, having no foundation in fact; and hence, that any notions of *duty* or *responsibility* are erroneous; that his actions, under all circumstances, are the consequence of the play of physical forces upon the brain itself. If this be true, criminality is but another name for insanity, and criminals should be handed over to the doctors to be treated therapeutically, instead of being treated judicially by the courts, as at present.

On the moral and legal consequences of such a philosophy I need not dwell. Yet, while we are unwilling to yield even a reluctant assent to such a philosophy, we cannot overlook the influence of *physical* on *psychical* states, nor the fact that the normal activity of the intellect depends upon the maintenance of a normal and healthful condition of the brain itself. Illustrations of this may be seen when we call to mind the delirium of fevers, the disturbance of memory from blows or falls on the head, [2] "certain disorders on the part of parents—conditions which tend to produce idiocy and cretinism during infancy and childhood," the temporary insanity produced by intoxicating agents, and numerous other kindred phenomena which will readily occur to the mind of every experienced and thoughtful physician. But, notwithstanding the fact that numerous illustrations may be cited in support of the doctrine that the normal manifestations of the mind depend on the proper physical conditions of its material instrument—the brain—it by no means proves the non-existence of mind, as a force, external to and independent of the material structure through which its operations are made known to our consciousness. [3] "An accomplished artisan cannot display his skill through an imperfect tool; nor if the tool should become useless through impairment, is it any proof that he has ceased to exist. And so, though we admit there is a correspondence between the devolopment of the mind and the growth of the body, we deny that it follows from that, either that the mind did not preëxist, or that the death of the body implies its annihilation."

Given a violin of perfect construction, furnished with strings of proper material, of suitable length and relative proportions with each other and with the instrument itself, and the *virtuoso* will

"Wake the sleeping soul of harmony,"

and draw forth sweet music fit for the ear of the most cultivated listener; but let the strings be "out of tune," smear them with oil, soak them in water, or any substance which will interfere with or obstruct their free vibrations, or in any manner disorder their proper condition, and the best efforts of a skilled artist would disgust the ear of the most vulgar listener. Again, remove from the instrument, if you please, all the strings save one, and a Paginini will discourse sweet music therewith, characteristic of the qualities belonging to the particular string which may have been selected for the experiment; or if you attach to the "bridge" of the instrument some metallic substance an ounce in weight, the resulting sound will be so modified as to be scarcely recognized by anyone not aware of its cause. So, the noblest mind, operating through a perfect cerebral structure, may instruct, delight, amuse, excite or soothe the multitude according to the dictates of its own self-determining power — the will; but let the nerves which radiate from the brain, reaching every part of the body, be materially disordered, and its sublimest efforts may result in any of the various manifestations of delirium or mania. Indeed, they may be so disordered as to furnish us with a *moral* Paginini — a *monomaniac.*

"*Man* is a harp, whose chords elude the sight;
Each yielding harmony, disposed *aright.*
The screws *reversed* —
Ten thousand *thousand* strings at once go loose —
Lost, till he *tune* them, all their *power* and *use.*"

Philosophers who adopt the views of the materialist exclude the evidence derived from our own internal consciousness, for "in reducing thinking man to the level of a puppet that moves according as its strings are pulled," they place themselves in complete opposition to the undoubting conviction which is well-nigh universal among mankind. As a proof that we do really possess a self-determining power, we may cite certain conditions presented in the "biologized" or "mesmerized" subject, who, for the time, may be considered as a thinking automaton, whose action and thought (so far as its external manifestations are concerned) may be controlled and directed by suggestions determined by the will of another, while the power of his own will is suspended. [4] "To whatever extent we may be ready to admit the dependence of our mental processes upon bodily organization and activity of function, there is a something above and beyond all this to which that activity is subordinated. Whilst in rudely trampling on the noblest conceptions of our nature as mere delusions, the materialist hypothesis is so thoroughly repugnant to the almost intuitive convictions which we draw

from the simplest application of our intelligence to our moral sense, that those who have really experienced them are made to feel its essential fallacies with a certainty that renders logical proof unnecessary."

Contrary to the doctrine of the materialists, the spiritualists* regard the mind as a separate immaterial existence, intimately associated with, but not dependent upon the bodily instrument for its power and activity, except as a means of acquiring and imparting a knowledge of external things; or, to state it differently, each individual has a dual life, one of sense and the other of dreams; *i. e.*, one in which the mental operations are associated in all things with the corporeal organization; in the other they have no relation whatever to those of matter, and are themselves never affected by the conditions of the material tenement.

I have premised this much in order that we may more easily follow the line of thought pursued, and the arguments adduced, tending to support the theory of a *possible controlling power of mind over the affections of matter; i. e.*, over the functions not only of our own bodies, but over those of other persons.

What we are called upon to do, as physicians, is to observe, regulate and restore the bodily functions of the sick to their normal action. If, therefore, it shall appear that we carry about with us daily, concealed, it may be, in the dome of the cranium, a power whose mild majesty can still the surging waves of the crimson tide, cool the fevered brow and soothe the perturbed spirits of our patients — who will say nay?

Universal experience confirms the fact that the processes of organic life may be influenced — accelerated, retarded or arrested — by the prevailing psychical states of the individual. Indeed, [5] "the most destructive elements in the physical world, when left to spend their whole force on the unprotected human body, are scarcely more disastrous in their effects than the misdirected action of the mind;" at the same time, the vital energies may be increased or diminished, and the wasting form mysteriously renewed by the appropriate exercise and right direction of its powers. Its influence is a potent factor in the distribution of all the fluids of the body, and determines many of the physiological changes. The mode of its connection may be thus illustrated: It is well known that electricity accelerates the motion of fluids. "If you discharge an electric current into a siphon through which a stream of water is flowing, the water will be driven out with great force, moving in the direction of the current." In like manner the distribution of nervous energy by the voluntary and involuntary action of the mind, affects the circulation of blood in the arteries, and of the animal fluids generally.

In all surgical operations performed on patients while in a state of

*By this term the writer does not refer to the doctrine comprehended in the term "Modern Spiritualism."

physical insensibility, whether produced by ordinary anæsthetics or by the so-called magnetic agencies, the loss of blood is quite inconsiderable when compared with that of operations performed under normal conditions. During anæsthesia, mental activity is measurably suspended, the nervous forces are in repose, and the circulation of the blood is not materially augmented; but in a conscious, sensitive patient the attention is directed to the seat of injury, the nervous energies and the blood move in the same direction, and the patient is liable to copious hemorrhage.

It is well known that when any portion of the body is injured, Nature at once commences the work of repair—the vital energies are augmented in the direction of the wound, the fluids move in the same direction with unwonted rapidity, carrying materials for reconstruction. We are all well aware tha tthe apparatus applied by the surgeon to the broken limb subserves no higher purpose than to keep it in place while nature performs the more important office of uniting the bone. In like manner, when any organ becomes diseased, or any functional derangement occurs, we employ medicines in vain unless Nature summons her forces to the work. All she requires of us is to *aid* her. Many of us may remember instances where we had exhausted all the known resources of our art to restore the patient, and then were obliged to leave Nature to conquer; and she often accomplished her task without our aid, and perhaps—sometimes—in spite of our conscientious efforts.

Should not this serve as a hint to us that the renovating or restorative principle exists IN MAN, and admonish us to oftener make use of the resources within to regulate the distribution of the vital energies of our patients?

In the published Transactions of this Society, for the year 1878, there appears a brief but able paper by my colleague, W. W. Cochrane, M. D., on "Conservative Medicine," which will well repay careful perusal and study. In that paper the honorable gentleman treats of animal magnetism, electricity, hypnotism, spiritualism, somnambulism, clairvoyance, and mesmerism, as "phenomena of the same genera, and emanating from one vital force."

While I may not fully agree with all the points sought to be established by my learned friend, I appreciate the importance which attaches to a correct understanding of the *modus in quo* of those different phases of psychical action which he has generalized as above stated, and will, accordingly, invite your attention first to mesmerism.

This is a topic equal in scientific interest to any other subject which has a relation to the practice of medicine. During the last few years it has commanded the closest attention among scientific observers in Europe, and at the present hour is the absorbing topic of experimental interest in the great medical centers of America. And in view of the

growing preponderance of nervous diseases in this country, it would seem to be of special interest to us.

The literature of this subject is abundant, feebly scientific until quite recently, and readily accessible to every one. The facts, or phenomena, of mesmeric trance are as old, and perhaps older, than the profession of medicine itself; but as experiments have been multiplied and varied in their character, according to the varied theories of experimenters, new phases have arisen, the field of research widened and extended, until now it constitutes the most interesting department of psychology; and the direction and impetus given to the investigations of the present would lead us to entertain the hope that a result may be reached whereby the functions of the nervous system may be better understood, our views of pathological changes corrected, our therapeutic resources augmented, and our methods of practice rendered more satisfactory.

If we approach the consideration of this subject in a spirit of scientific inquiry, we shall be better prepared to solve the questions which may be encountered at each step of our progress, by consulting our physiology.

From this we have learned that all organized forms originate in a primordial cell. Through this germinal cell, under the influence of extraneous forces, have been traced in the embryo, the gradual unfolding of its parts until it becomes like its parent organization. It matters not what may be the class of plants or animals, the substance or material of the primordial cell is in every instance the same, and not only so, but in the earlier stages of its career are in all instances identical. [6] "Organic beings are, therefore, the materialized embodiment of what must take place through the action of given forces." The *mode* in which the power is exerted as *vital force, specially* determining the form of each particular type, depends upon the "germinal capacity" or directive agency inherent in each particular germ.

Under its normal surrounding external conditions and supplied with food, the embryo will not only build itself up, but it will maintain itself after it has attained its normal limit of growth and development. This it accomplishes through the forces liberated during the complex changes in the food, and the tissues of the organism itself.

[7] The conditions of animal existence involve an expenditure of *motor force* through the nervous and muscular mechanisms, and the exercise of a purely psychical or mental force. This functional activity involves the disintegration of tissue; and in this retrograde metamorphosis there are two sources of the liberation of force: *one*, the descent of *living tissue* to the condition of *dead matter*, involves the liberation of the force originally concerned in its organization; and second, the further descent from complex organic compounds to the lower condition or plane of simple binary compounds.

We may say, therefore, that the life of man essentially consists in the manifestation of forces of which the body itself is the instrument; and these forces are developed by the processes of digestion and assimilation—a changing or raising, as it were, from a lower to a higher plane of organization, and of disintegration—a gradual letting-down of the whole to the original condition in which the plant found it.

The term, "*vital force*," I conceive to be not a single *unit* of force, but a *plural force;* at least if we are to regard it as a homogenous force or agent, the other concomitant forces are simply modified forms or varied manifestations of it representing the sum of the energies engaged in the organization and the maintenance of the forms of animated nature. Therefore I shall, in this paper, make use of the term with this understanding of its significance.

Regarding *electricity* and *magnetism*, we may recall the fact that we cannot electrize a substance without at the same time magnetizing it, and we cannot magnetize a substance without at the same time electrizing it. Each molecule, the instant it becomes affected by one of these forces, is affected by the other, but in transverse directions. They are inseparable and mutually dependent; correlative, but not identical; but as they always exist together, sometimes in a potential state and sometimes in an active state, either being susceptible of assuming the active state through the activity of the other, or by any one of the other forces initiating their activity, I shall speak of them conjointly as the electro-magnetic force and the nervous force, synonymously, inasmuch as the nervous system is the instrument through which they operate in producing motion, sensation, heat, etc. As illustrating their mutual action, we may mention the fact that all bodies which exhibit magnetic polarity derive their polarity from currents of electricity which are perpetually circulating around the particles of which such bodies are composed. The direction of these currents is uniformly in a plane at right angles to the axis of the magnetic power. It is well known that when electrical currents are transmitted in the same direction through two wires, suspended near each other, they will be mutually attracted; on the contrary, if the currents are transmitted in opposite directions, they will be repelled. The reason for this is that when currents are transmitted in opposite directions the magnetism on one side of the wire is exactly similar to that in the contiguous side of the second wire, and consequently repel each other; whereas, when the currents are in the same direction, the effects are exactly reversed, and attraction follows. Transfer the illustration to the human body, substituting for the wires the nervous and muscular fibrils, and we may be able to understand how it is that electricity and magnetism are so intimately blended, which will render us assistance in arriving at a plausible interpretation of some of the phenomana under consideration.

[8] "There is a property in a ganglion which enables it to hold in reserve a portion of the influence brought to it, so as to keep up the action for a period of time after the original disturbing causes have ceased; also to permit the escape of the coming influence or energy by lateral ways, either periodically or otherwise, and so produce a continuous or intermittent effect. Recalling the fact that a ganglion is made up of nerve-tubes and vesicles, conjointly, these electrical results must find their solution in the elementary structure of the ganglion, that is to say, in its vesicular portion; for it is not to be supposed that a current of electricity," or of magnetism, its congener, "such as we are now considering, would ever have an opportunity of escaping from the axis cylinder along which it passes. The isolating quality of the white cylinder of Schwann would prevent any such effect. Arrived at the vesicle the current at once diffuses itself through the granular material, much in the same manner as it would diffuse itself through a spherical conducting mass, if it were brought by a wire and escape through any number of wires that might chance to be in contact with a conducting wire beyond." The function of the nervous system, therefore, is not a generative one, but more properly speaking a controlling one; that is to say, it determines in what way the organic processes shall go on.

While animal electricity is the immediate agent in the production of all chemical changes that occur in living bodies, it is no less true the agent itself is generated in all the processes of vital chemistry. The same subtile agent is disengaged in all muscular motion, as has been demonstrated by a variety of scientific experiments.

Emil du Dois Raymond, of the Berlin Academy, was the first to discover and demonstrate the existence of the muscular current *in the living man.* The variations of the current by *volition*, in the act of muscular contraction, were also clearly established by his experiments. "Taking two homogeneous pieces of platina, he immersed one end of each in a solution of common salt, contained in two cups, and then connected the opposite end of the platina strips with the needle of the galvanometer. Having arranged his apparatus, he plunged the index finger of each hand into the solution contained in the two vessels, whereupon he observed a slight deviation of the needle of his instruments. By alternately concentrating the will on the two arms, and thus timing the muscular contraction, the most decided oscillations were produced. Humboldt repeated the experiment of Raymond, and confirmed (in fact and in the judgment of the scientific world) the result, by his success and the weight of his powerful testimony. Subsequently Prof. Buff, of Geissen, experimented, with still more extraordinary results:

"Having joined the hands of sixteen persons, he caused the individuals at the extremities of the line to complete the circuit by each dipping

the hand that was disengaged into the contents of the cup. The cuticle on the hands of the persons employed in the experiment, having been previously moistened, opposed no resistance to a free circulation of the subtle element. Accordingly when — at a word — every person in the circuit, in regular alternation, contracted the muscles of his right and left arm, the galvanic needle was powerfully moved, in opposite directions, to the extent of fifty degrees."

These results have been further corroborated by experiments of Alfred Smee, of London, and others, both in Europe and in this country, which plainly shows that an *electro-motive power pervades the muscles of all living bodies.*

Every departure from the normal standard involves either an excess or a deficiency of the electro-magnetic energy. In the sthenic and asthenic forms of disease there is always a correspondingly increased or diminished electro-thermal, chemical, vascular and organic action. To modify and regulate these processes and functions, as circumstances require in the treatment of disease, we must be able to act on and through the very agent on which they generally and collectively depend. The electro-magnetic energy being the active agent in the generation of heat and organic force — the different forms of "*transmuted energy*" — giving rise to the circulation of the fluids, sensation and voluntary motion, it follows of necessity, that the power to control the action of this agent qualifies its possessor to determine the physiological and pathological states, and hence to subdue all forms of curable disease.

To those of you who may doubt the truth of the physiological explanation of the functions of the body involved in the above statement, I will refer to the experiments of Galvani, Matteucie, Reymond, Humbolt, Buff, Smee and others, which demonstrate that all the animal functions are *electrically produced.* But without the aid of those experiments, by the light of the varied, patient and long-continued investigations which have finally resulted in firmly establishing the doctrine of the correlation and conservation of forces, it is difficult to adopt any other view of the activity of the bodily functions.

If, therefore, the organic functional activity depends on the presence of a force — *electro-magnetic force*, synonymously, *nervous force* — correlative and mutually interchangeable with the other forces, it must be obvious that the various physiological and psychological changes which result from the magnetic or mesmeric manipulations directly depend on the influence exerted over this known and acknowledged agent of feeling, thought, and motion. If, through the agency of the nervous force, when we irritate the periphery of the nerves, sensation be produced, there is no good reason for presuming that some other force — not known to exist — is acted upon when the avenues of sensation are closed, as in the mesmeric sleep. It must be obvious, therefore, that whenever sensation is either increased, diminished, or

suspended, the effects must be produced through the unequal distribution or abnormal action of the agent on which sensation proximately depends. And it is through the medium of this force that, by his will and manipulations, the mesmerizer exerts his influence over the organic functions.

The phenomena of mesmeric or magnetic sleep can only be produced by a direct influence exerted over the agent governing sensation and motion. "By the concentration of that agent at certain points, and by the wide diffusion of the subtle principle; by its equal and unequal distribution; by its sudden dissipation from particular organs and the centers of the electro-nervous energy; by alternately interrupting and restoring the electrical equilibrium of the brain and other vital parts; and by changing the polarity of the organs—all of which effects the skillful operator may develop agreeably to certain physical and psycho-electrical laws—we produce all the mysterious changes in the processes of animal chemistry, in the varying phenomena of sensation, and in the organic action of the whole body, which are known to occur under the hand, the eye and the will of any person who is skilled in vital magnetics."[10]

MASSAGE—MESMERISM.

Massage, by rubbing, I believe to be essentially a mesmeric process. Bartholow says, "the good effects of massage are popularly ascribed to electrical or supernatural agency." He admits that electrical currents are induced by it (as we have seen, magnetism also), but states that the "curative effects are attributable to other agencies;" that the power exerted by the masseur (mesmerizer) is transformed into heat at the point of contact; that the vessels dilate, the circulation of the blood is increased both in quantity and velocity, a general rise of temperature takes place, all the organic functions are performed with more energy. He also says that massage exerts peculiar effects on the nervous system, and furthermore says that these effects "are explicable only on the theory that gentle titillation of the cutaneous branches of the nerves has so far lowered their excitability that they cease to receive or transmit painful impressions." The same author recommends its use for the relief of wakefulness, headache, neuralgia, hemicrania, spinal pain, paralysis, contracted muscles, ulceration, progressive muscular atrophy, chronic joint affections, deformities, and inflammatory deposits. But how its beneficial effects on these varied and widely diverse pathological states are explicable on the theory of "titillation" it is not easy to see. It may be inferred from the remarks of Weir Mitchell that he ascribes the therapeutic effects to a modification of the organic functions through the influence of the mind on the electro-magnetic forces.

When the mesmeric effects are manifested to a degree sufficient to induce a condition resembling a deep sleep, it may be properly called a trance. Dr. Beard describes trance to be "a concentration of nervous

activity in some one direction, with corresponding suspension of nervous activity in other directions," a definition which would seem to account for all the phenomena of the different varieties of trance.

The inducing of the mesmeric trance, Dr. Beard says, "is simply a matter of mental chemistry." "On the part of the subject you need a degree of modesty, diffidence, and submissiveness; on the part of the operator there must be firmness, will, grit, or, if you please, conceit. Bring these together and you have the reaction — trance. Just as in the battery the farther apart in the electrical series the metals are the greater the amount of the electrical force generated, so the more thoroughly opposite the elements of character of the operator and the subject, the more speedy and satisfactory the trance." The method employed is immaterial so long as the attention is fixed, and a firm conviction is established in the mind of the subject that the result sought will certainly ensue.

Before we proceed to consider the therapeutic uses of mesmerism or animal magnetism, I will pause to make the general remark that as the earth increases in age its substance and the atmosphere have slowly but sensibly changed; so, in a like manner, have changed our physical constitutions, our manner of life, our habits of thought. In the early history of the globe we are led to believe the cosmic conditions were fitted only to support the lowest forms of vegetation; gradually advancing upward through the various gradations of vegetable life to the simplest forms of animal existence until the remotest historical period is reached, when we find it fitted for the abode of men. The materials of the inorganic world are of the simplest chemical constitution, and possessed of the general qualities, durability and stability, while the organic structures are composed of highly complex chemical compounds unstable in character in proportion to their complexity in chemical constitution; and when we consider the absolutely incalculable amount of material substances derived from the earth and atmosphere which, in the long vista of time has been elevated to the plane of complex chemical compounds, composing the structures of organic transitory forms, temporarily serving their uses and being returned again to the inorganic world, we are in a measure prepared for the general statement that all nature is changing from the simplex to the complex — from the homogeneous to the heterogeneous. Under the influence of this mode of change we are becoming sublimated, and the intellectual and psychical forces are gaining greater sway. The increasing preponderance of the nervous element in the human constitution admonishes us that similar changes are taking place in the forms of disease, calling for corresponding changes in their treatment. Accordingly, the wisest physicians perceive the necessity for a modification in their practice; and hence they administer medicine with caution, in alterative doses and improved forms.

In returning from this digression, I will first mention some of the simpler phenomena which attend the use of this *natural therapeusis.*

We know that pain is often relieved or wholly removed by gently passing the hand a few times over the affected part. "A similar motion of the hand from the brain, along the spinal column of an animal, will produce a state of unusual passivity; and cats, dogs and other quadrupeds not infrequently fall asleep when subjected to the influence of even the inexperienced and unskillful experimenter."

The manipulations of the barber not infrequently cure a headache.

Nurses, almost unconsciously, in a similar manner, subdue the nervous irritability and restlessness of children; "and it often happens that the moral and physical resistance of older persons is overcome by the magnetism of the hand." As an illustration of the subject, I will relate an anecdote which appeared in the papers many years ago. An ignorant old lady, who had but recently received confirmation at the hands of the bishop, presented herself a second time as a candidate, saying she wanted to be confirmed again—*because it was so good for her "rheumatiz."*

As illustrating its practical value, I have selected the following cases from the practice of Dr. S. B. Brittan,[11] which I regard as perfectly trustworthy.

CASE 1.—Mrs. G.; asthma. Magnetic sleep readily induced; result of first trial, complete recovery.

CASE 2.—Miss ——, a young lady—one of a number forming an evening party in the parlor of a friend, while engaged in an animated conversation, was suddenly seized with catalepsy; voluntary motion, sensation, respiration and consciousness suspended; after united efforts of three reputable physicians had failed to afford the least relief, Dr. B. was called. After examination, and without delay, he commenced making appropriate manipulations "from the supposed point of electrical convergence, the heart," and, in his own words, "visible signs of speedy restoration immediately followed the application of the treatment, and in *fourteen minutes after I entered the apartment the patient was fully restored, and employed in adjusting her hair before the mirror.*"

CASE 3.—Miss R., aged 18; acute rheumatism; right knee much inflamed, extremely sensitive to movement or pressure, and extremely swollen; swelling extending for some distance both above and below the affected joint; ill seven days; treated by physician who, in addition to internal remedies, had prescribed a liniment as a local application. Dr. B., in examining the patient, believed that the oil contained in the liniment would further check the insensible perspiration—which always facilitates the escape of vital electricity from the body—and so render the skin a non-conductor, and increase the inflammation; proceeded first to remove the oily substance from the limb, by sponging with a mixture of ammonia and water, then using *massage* by rubbing gently

from the highest point of visible inflammation *to* the ends of the toes, at the same time keeping the surface of the limb moist by the occasional use of the sponge and ammodia mixture. This process was kept up without interruption for forty minutes. Result—Inflammation and swelling greatly reduced; patient could move her limb, and had partial use of the knee joint, which she had not been able to move in the least during the preceding seven days. At intervals of twelve hours the treatment was twice repeated, after which the patient walked up and down stairs without pain or inconvenience. On the evening of the next day she walked a distance of half a mile and back, and from that time she had not the slightest symptom of returning inflammation.

CASE 4.—Miss L., aged 20; ill four years; paralysis of lower limb, accompanied with loss of peristaltic power of intestines, suppression of catamenia, and during the last eight months, loss of voice; the treatment had been, besides internal medicines, topical bleeding, blisters, setons in the back, etc.; and every inch of the surface from the occipital protuberance to the coccyx, gave evidence of the faithful application of the treatment. After the first application of the treatment by massage (magnetism or mesmerism, the name being immaterial), patient began to improve. The improvement progressed as the treatment was repeated, until at the end of a few days she was pronounced well. It is to be regretted that the subsequent history of this case does not extend beyond a period of one month from the date of recovery, so we are left somewhat in doubt as to whether the recovery was permanent.

Isolated cases, illustrating the use of the magnetic procedure in alleviating human suffering, have occurred in the experience of many practitioners, both here and in Europe; but the practice of Dr. James Esdaile, as surgeon, in the service of the East India Company, affords the clearest demonstration of its value in surgery. [12] We are informed that in a period of eight months he performed seventy-three surgical operations, without pain to the patient, while in a condition of anæsthesia produced by this means. I will relate a single case from the book of Dr. Esdaile: Gooroochuan Shah, a native shop-keeper, had a tumor of incredible dimensions, and which for years, we are told, *served him for a "writing desk."* This tumor, weighing *eighty pounds*, was removed by Dr. E. while the man was in profound magnetic anæsthesia. After the operation, upon his return to consciousness, the patient declared that "nothing had disturbed him." On this case Dr. E. remarks: "I think it extremely likely that, *if the circulation had been hurried* by pain and struggling, or *if the shock to the system had been increased by bodily and mental anguish, the man would have bled to death*, or never have rallied from the effects of the operation; but the sudden loss of blood was all he had to contend against; and, although in so weak a condition, he has surmounted this and gone on very well." In five weeks he was so far recovered as to leave the hospital and return home.

Dr. J. Hughes Bennett,[13] in speaking of the labors of Dr. Esdaile and of Mr. Braid: "A worthy commencement to rational treatment, and there can be little doubt that in no long time its influence, when further studied, will be acknowledged."

I will here introduce a typical case from my own experience, which occurred some fifteen years ago, when the writer resided at Springfield, Illinois.

Mrs. T., aged 25, the wife of an army officer: One morning between 10 and 11 o'clock, was summoned to her bedside, and found her suffering with intense headache, eyes injected, slight fever, general feeling of lassitude, bowels constipated; she informed me that she "had not slept a wink" during the night. Being desirous of testing the theory of psychical influence in restoring disordered vital action, I placed my right hand on the patient's forehead, and, with the other grasped her left hand, and, while looking earnestly in her face, engaged her in pleasant conversation for about two or three minutes, when I released her hand, rose from the chair and said to her: "Mrs. T., immediately after my departure you will fall asleep, sleep soundly for *one hour*, when you will awake, with headache and all unpleasant sensations gone, and be refreshed as by a whole night's sleep. Good morning." At about the same hour on the following day I called again for the purpose of ascertaining the result of my experiment (for this was my first experiment). I found my patient free from pain, feeling well as usual, except a feeling of lassitude. She informed me that on the day previous her husband came home earlier than usual for his noon meal, and finding her asleep tried to awaken her; but being informed by his little son of about twelve years (who was present at my previous visit) that the doctor had said "mamma should sleep one hour," he desisted in his efforts to awaken her, sat down in an easy chair to read the morning paper while waiting for the "one hour" to expire. She promptly awoke at the appointed time, free from pain and feeling refreshed as I had directed. I was gratified at the success of my first experiment. During the conversation she referred to the fact that the bowels had not been evacuated for two or three days, and suggested that in order to prevent a return of the headache I should prescribe some mild cathartic, which I did in the following manner: Feeling that I had neglected this element of the treatment in my former experiment, I determined to further test the psychical theory by *prescribing, without personal contact, a psychological cathartic.* Accordingly, as before, I said to her: "Immediately after my departure you will fall asleep and sleep one hour. On waking the cathartic will take effect." At a subsequent visit I learned that this, my second experiment, was perfectly successful and my patient restored. I will add that I subsequently attended this lady occasionally for trifling complaints during a period of two years without the necessity of resorting to other than psychical

treatment. Soon afterwards she moved, with her husband and family, to Tennessee to reside.

The cases above cited are only a few of the many that might be selected from the practice (perhaps I should say *experiments*) of a large number of scientific physicians residing in different parts of the world; and I have introduced them as matters of fact more for purposes of demonstration than for illustrations of clinical experience.

I have sought to establish the hypothesis that there exist in us an inherent power, which, through the exercise of the will, is capable of influencing or of controlling the psychical and physical states of other persons; and which may be made of practical value, either alone or conjointly with other means, in the rational treatment of disease; leaving the question of how far it may be relied upon in any given class of cases, the general range and extent of its applicability, and the precise methods to be employed in its application to the different classes of disease, to be determined by further investigation and future experience. Indeed, these are the conditions upon which we admit any new remedy into our armamentarium.

I have not attempted to make a critical classification of psychical and physical phenomena, nor even to arrange in a strictly systematic manner the general thoughts and expositions above given; but it has been rather my design and purpose to so present them as to reproduce in your minds the profound sense of the magnitude and importance of the subject, which has actuated me in giving them expression; not only so, but to create an active desire on your part to patiently and critically pursue the investigation, both by study and experiment—being confident that, though the solution may come tardily, nevertheless it will surely come.

That the theory by which I have attempted to explain the phenomena under consideration is open to criticism, I am fully conscious. I cannot, however, but think that the fair way to test a theory is to compare it with other theories, and see whether upon the whole, the balance is in its favor. And, in conclusion, I cannot do better than to quote the closing logical remarks of Dr. Grove, in his essay on the Correlation of Physical Forces: "Were a theory open to no objection it would cease to be a theory, and become a law; and were we not to theorize, or to take generalized views of phenomena until those generalizations were sure and unobjectionable—in other words, were laws—science would be lost in a complex mass of unconnected observations which would probably never disentangle themselves. Every one has a right to view a collection of facts through any medium he thinks fit to employ, but some theory must exist in the minds of those who reflect upon the many new phenomena which have been recently discovered. It is a great assistance in such investigations to be intimately convinced that no phenomena can stand alone; each is inevita-

bly connected with anterior changes, and as inevitably productive of consequential changes, each with the other, and all with time and space; and in either tracing back these antecedents, or following up their consequents, many new phenomena will be discovered and many existing phenomena, hitherto believed distinct, will be connected and explained; explanation is, indeed, only relation to something more familiar, not more known; *i. e.*, known as to causative or creative agencies. In all phenomena, the more closely they are investigated, the more we are convinced that, humanly speaking, neither matter nor force can be annihilated, and that an essential cause is unattainable—causation is the will, creation the act of God."

NOTES AND REFERENCES.

1. The Tenant and the House. 1864. S. B. Brittan, M. D.
2. Human Physiology: W. B. Carpenter. 4th Am. ed. 1856. p. 539.
3. Human Physiology: J. W. Draper, M. D., LL. D. Large ed. p. 285. Ibid. "When a tool becomes blunted and old, the workman can no longer manifest his former skill; but the skill may, nevertheless, remain. Though the apparatus for the reception of external impressions, as well as that for voluntary action, may be failing, it implies nothing as regards the prime mover."—p. 539.
4. Carpenter as above, p. 539.
5. Mind as a Destructive Agent: S. B. Brittan, M. D.
6. J. W. Draper as above, p. 506.
7. Compare W. B. Carpenter, Correlation of Physical and Vital Forces.
8. Compare J. W. Draper as above, p. 276.
9. Physics of Infectious Diseases: C. A. Logan, A. M., M. D. Chicago. p. 63. Under the head of "Transmutation of Energy," he says: "Radiant solar heat is a molecular motion transmitted from the sun; while heat which *we* create, or more properly evoke, at will, is the product of transmuted energy. If energy be expressed in the form of visible motion, and this motion be suddenly arrested, the energy is not lost; it is *transmuted* partly into *heat*, still representing the *actual* energy, and partly into *potential* energy, that portion which is stored away for subsequent use or development." Of this unpretentious little volume I cannot refrain from the remark that it is a gratifying example of fresh thought, evincing critical study and careful reflection, and contains much more than its title would indicate.
10. Compare S. B. Brittan as above.
11. Magnetism as a Therapeutic Agent: S. B. Brittan, M. D. 1864.
12. Mesmerism in India, by James Esdaile, M. D.
13. Principles and Practice of Medicine. 5th Amer. ed. p. 293.

On the subject of Animal Electricity, compare Emil du Bois Reymond, on the time required for the transmission of volition and sensation through the nerves.

SUPPLEMENTAL REPORT OF EXAMINING BOARD.

To the Kansas Medical Society—GENTLEMEN: I have the honor of presenting the following report of the Examining Board of the Kansas Medical Society, appointed by you under the law, now defunct,

which was intended to regulate the practice of medicine in the State of Kansas.

This report is merely supplemental to the one presented by me at your last meeting.

The Supreme Court of the State has set aside the law by pronouncing it unconstitutional. The same decision that rendered the law defunct, not only decided your charter, but places no limit on its existence, and virtually ordains it with perpetual life. This good, at least, has been accomplished (as the validity of your charter was seriously questioned), but at too great a cost for the benefits that are likely to accrue from it.

The Board desired to know the exact status of the law before any prosecutions were attempted, consequently the case was presented that brought out the decision of the court which wiped from the statute book a law in many respects impracticable. An attempt was made to have enacted, at the last meeting of the Legislature, a bill in most respects similar to the act of 1879, and legalizing the work of the respective boards done in consonance with the provisions of that act. I, from my experience in the past, am unalterably opposed to any legislation that will recognize a separate Eclectic board. I do not believe there is enough decent material in their school of practice in Kansas to constitute the board.

On the pages following will be found the names of the graduates who have received certificates since May 10, 1880; also their addresses, number of certificate, school, and date of graduation.

SUPPLEMENTAL ROLL OF MEMBERS.

Name.	Residence.	County.	No. of cert.	School.	Year of grad.	Date of application.
Alexander, J. F.	Cherokee	Phillips	215	St. Louis Medical College	1872	September 16, 1880.
Ashby, W. E.	Quenemo	Osage	692	Medical and Surgical College of Keokuk	1873	March 22, 1880.
Axtell, S. Blake	Emporia	Lyon	705	Wooster University, Ohio	1880	August 13, 1880.
Bernard, T. H.	Herman	Cherokee	723	Nashville Medical College, Tennessee	1858	November 16, 1880.
Boucher, I. W.	Wyandotte	Wyandotte	728	Medical College of Ohio	1873	December 10, 1880.
Bradshaw, J. F.	Superior	Nuckolls (Neb.)	677	Rush Medical College	1879	May 5, 1880.
Brown, J. W.	Winchester	Jefferson	713	Rush Medical College	1865	October 19, 1879.
Buthourd, C. J.	Concordia	Cloud	680	Keokuk Medical College, Iowa	1877	May 10, 1880.
Coryell, Martin	Hallowell	Cherokee	717	University of the City of New York	1880	November 19, 1879.
Cuthbert, W. H.	Belle Plaine	Sumner	718	Rush Medical College	1862	December 8, 1880.
Donaldson, A.	Williamsburg	Franklin	724	Medical Department of Wooster, Ohio	1874	November 14, 1880.
Eastman, J. S.	Speareville	Ford	679	Missouri Medical College, Missouri	1878	April 7, 1880.
Evans, W. F.	Frankfort	Marshall	709	Ohio Medical College, Cincinnati, Ohio	1846	September 9, 1880.
Evans, M. H.	Oxford	Sumner	704	Missouri Medical College, Missouri	1880	September 17, 1880.
Fourman, E. W.	Sabetha	Nemaha	684	.....	.....	June 19, 1880.
Frost, G. W.	Emporia	Lyon	729	Bellevue College, New York	1871	November 5, 1880.
Furguson, W. A.	Atchison	Atchison	737	Jefferson Medical College, Philadelphia	1880	January 24, 1881.
Gamble, James E.	Seneca	Nemaha	708	Jefferson Medical College, Philadelphia	1877	April 23, 1880.
Garnett, A. H.	Oswego	Labette	721	Washington University of Maryland	1872	November 8, 1880.
Golden, L. A.	Cedar Vale	Smith	719	Rush Medical College, Illinois	1880	November 24, 1880.
Graham, Thomas	Havana	Montgomery	693	Dartmouth Medical College, New Hampshire	1845	August 22, 1879.
Green, Chas. C.	Winfield	Cowley	702	Keokuk Med. College of Physicians and Surgeons	1875	August 27, 1880.
Green, Joel	Alma	Wabaunsee	678	Medical Department University of New Jersey	1849	May 13, 1880.
Green, P. B.	Galena	Cherokee	714	Vanderbilt University, Tennessee	1875	October 19, 1880.
Hills, J. Z.	Clyde	Cloud	729	College of Physicians and Surgeons, Keokuk	1875	November 17, 1880.
Hatcher, J. A.	Radical	Montgomery	682	Ohio Medical College, Ohio	1880	June 2, 1880.
Humfreville, H.	Waterville	Marshall	715	Kentucky School of Medicine, Kentucky	1875	September 1, 1879.
Hogan, James	Fort Scott	Bourbon	731	University of Pennsylvania, Pennsylvania	1842	November 20, 1880.
Hudson, M. F.	Osborne	Osborne	684	Medical Department University of Michigan	1873	June 2, 1880.
Jett, W. H.	Stanley	Johnson	687	Kentucky School of Medicine and Surgery	1858	June 14, 1880.
Johnson, Sam	Superior	Nuckolls (Neb.)	734	College of Physicians and Surgeons, Keokuk	1880	December 21, 1880.
Jordan, W. A.	Columbus	Cherokee	703	College of Physicians and Surgeons, Maryland	1873	October 6, 1880.
Kelley, J. M.	Nortonville	Jefferson	736	College of Physicians and Surgeons, Keokuk	1879	January 20, 1881.
Leslie, C. H.	Lecompton	Douglas	685	University of Pennsylvania, Pennsylvania	1874	June 2, 1880.
Lawrence, A. J.	Silver Lake	Shawnee	694	Buffalo Medical College, New York	1875	July 3, 1880.
Lenneker, Wm.	Atchison	Atchison	733	University of Bonn, Germany	1865	December 30, 1880.

SUPPLEMENTAL ROLL OF MEMBERS—CONCLUDED.

Name.	*Residence.*	*County.*	*No. of cert.*	*School.*	*Year of grad.*	*Date of application.*
Logan, R. T.	Atchison	Atchison	727	University of Louisville, Kentucky	1860	December 14, 1880.
Milne, Geo. L.	Marysville	Marshall	699	Victoria University, Canada	1880	August 6, 1880.
Miller, J. M.	Peabody	Marion	711	Jefferson Medical College, Philadelphia	1862	September 14, 1880.
Miller, G. M.	Girard	Crawford	712	Bellevue Hospital College, New York	1880	October 7, 1880.
Morrison, N. H.	McPherson	McPherson	691	Kansas City College of Physicians and Surgeons	1880	June 22, 1880.
Meacham, E. J.	Concordia	Cloud	697	Rush Medical College	1879	August 6, 1880.
Pease, J. M.	Memphis	Bourbon	706	University of Vermont	1876	September 16, 1880.
Pleasants, J. H.	Cambridge	Cowley	395	St. Louis Medical College	1873	July 9, 1880.
Potter, Amos	Paola	Miami	306	Ohio Medical College	1857	June 30, 1879.
Peave, R. J.	Pleasanton	Linn	294	University of Michigan	1869	June 20, 1879.
Randell, G. H.	Easton	Leavenworth	707	University of Michigan	1878	May 21, 1880.
Rose, V. H.	Rosedale	Wyandotte	700	Rush Medical College	1869	March 31, 1880.
Raynor, W. J.	Barnes	Washington	686	Medical College of Ohio	1880	June 7, 1880.
Reed, S. S.	Smithland	Jackson	688	Hospital College of Medicine, Kentucky	1880	June 14, 1880.
Stone, J. W.	Emporia	Lyon	701	Medical University, Louisville, Kentucky	1880	September 3, 1880.
Sample, J. A. G.	Atchison	Atchison	716	Ohio Medical College	1880	December 7, 1880.
Trott, J. R.	Galena	Cherokee	683	Missouri Medical College, Missouri	58–77	June 2, 1880.
Taylor, Squire F.	Leavenworth	Leavenworth	681	Bellevue Hospital College, New York	1880	May 4, 1880.
Van Allen, J. R.	Kansas City	Wyandotte	725	Kingston, Ontario, Canada	1871	November 16, 1880.
Wood, R. L.	Troy	Doniphan	690	Missouri Medical College, Missouri	1876	June 19, 1880.
Wellwood, J. B.	Larned	Pawnee	696	Bellevue Medical College	1880	August 6, 1880.
Warren, L. F.	Cherryvale	Montgomery	720	Medical Department Vanderbilt University, Tenn.	1879	November 8, 1880.
Wetschek, J.	Topeka	Shawnee	724	University of Vienna, Austria	1874	November 1, 1880.
Williams, S. K.	Fulton	Bourbon	732	Kansas City College of Physicians and Surgeons	1877	December, 1880.
Thompson, J. L.	Capioma	Nemaha	735	Louisville Medical College, Kentucky	1880	October 8, 1880.
Page, Sol. C.	Effingham	Atchison	698	St. Joseph College of Physicians and Surgeons	1880	—— 1880.

Total number since May 10, 1880, 66. Total number of graduates, (663+66,) 729.

The following-named physicians were examined within the time provided by the act, found qualified, and received certificates as provided by section 3 of the act, but were accidentally omitted from last report:

Name.	*No. of certificate.*	*Residence.*	*County.*
Dougan, W. McK.	128	Independence	Montgomery.
Lemon, W. H.		Winchester	Jefferson.
Mossman, W. H.	5 years	Osage City	Osage.
Boling, ——		High Prairie	Leavenworth.

Total number of certificates since May 10, 1880, 4. Total number of certificates, 152.

The following are the names of persons rejected by the Board:

Name.	*Residence.*	*County.*	*School.*
Clark, Thomas L.	Rush Center	Rush	
Knight, Overt. C.	Atchison	Atchison	University Queen's College, Kingston, Canada; also Buchanan's list.

Total rejected since May 10, 1880, 2. Total number rejected, 160.

Neither the Homeopathic nor Eclectic Board has reported any rejected since last report.

The following is a summary of the number who have graduated from the various medical institutions above named:

Bellevue Hospital College	4
Buffalo Medical College	1
Darmouth Medical College (N. H.)	1
College of Physicians and Surgeons (Md.)	1
Hospital Medical College (Ky.)	1
Kansas City College of Physicians and Surgeons	2
Jefferson Medical College (Pa.)	3
Keokuk College of Physicians and Surgeons	6
Kentucky School of Medicine	2
Louisville Medical College	1
Missouri Medical College	4
Nashville Medical College	1
Ohio Medical College	6
Queens College, Kingston (Canada)	2
Rush Medical College	6
St. Louis Medical College	2
St. Joseph College of Physicians and Surgeons	1
University of Bonn (Germany)	1
University of Louisville (Ky.)	2
University of Michigan	3
University of New Jersey	1
University of New York	1
University of Pennsylvania	2
University of Vermont	1
University of Victoria (Canada)	1
University of Washington (Md.)	1
University of Wooster (Ohio)	2
Vanderbilt University (Tennessee)	2

FINANCES.

FINANCIAL REPORT OF THE BOARD SINCE ITS ORGANIZATION, MAY 16, 1879.

Total number of applications	1,041	
Total number of fees paid	1,024	
Making total receipts of the Board		$5,120 00
Expenses of D. W. Stormont, M. D., President of Board	$259 35	
Expenses of C. C. Furley, M. D.	258 25	
Expenses of R. Morris, M. D.	330 50	
Expenses of C. H. Gulbor, M. D.	189 95	
Expenses of W. W. Cochrane, M. D.	120 00	
Expenses of G. W. Haldeman, M. D.	230 00	
Expenses of S. F. Neely, M. D., Secretary of Board	405 30	
Total expenses		$1,793 35
D. W. Stormont, for 68 days' time, at $10 per day, as per resolution of Board	$680 00	
C. C. Furley, for 62 days, at $10	620 00	
C. H. Gulbor, for 33 days, at $10	330 00	
R. Morris, for 51 days, at $10	510 00	
W. W. Cochrane, for 30 days, at $10	300 00	
G. W. Haldeman, for 14 days, at $10	140 00	
S. F. Neely, for 120 days, at $10	1,200 00	
Total for 378 days, at $10 per day		3,780 00
Total expense of Board, including time		$5,573 35
Balance due Board		$453 35

Respectfully submitted. S. F. NEELY, *Secretary of Board.*

REPORT OF COMMITTEE ON NECROLOGY.

It becomes the painful duty of your committee to report the following deaths of late members of this Society: Dr. John McMurray, of Perry, Jefferson county; Dr. E. Tefft, of Topeka; and E. W. Seymour, of Junction City.

Dr. JOHN MCMURRAY, died January 14, 1881, of pneumonia. He was born in Canada, in the year 1835, and lived there until he was eighteen years old. He then removed to the State of Mississippi, where he studied medicine nearly two years under the preceptorship of Dr. Allen of that State. In 1857 he came north and settled in Illinois, where he continued the study of medicine, and taught school during the winter. In 1859 he came to Kansas, and located in Osawkee, Jefferson county, where he continued his studies, and practiced with his father-in-law, Dr. Ward. He graduated from the Missouri Medical College in the class of 1869, after which he located in the town of Perry. He was an industrious, careful and progressive physician; faithful and earnest in acquiring knowledge, and ever ready to attend to the calls of sickness and duty —more thoughtful of the welfare of others than of his own. A neglected cold terminated in pneumonia, which resulted in his death. He leaves a wife and six children to mourn his untimely death.

DR. ERASTUS TEFFT was born in Lebanon, New York, in the year 1818. He removed to Illinois in 1834, and began the study of medicine with his uncle, Dr. Collins, in 1840, and attended his first course of lectures at the University of New York in 1842–3. He was a private student of the late Valentine Mott. He continued his studies, and practiced with his brother, Dr. Joseph Tefft, at Elgin, Illinois, until the spring of 1859—attending a course of lectures at Rush Medical College in the winter of 1844–5—and graduated at the University of New York in 1847. He located in Topeka in 1859, thus being one of the early pioneers of the State, where he continued the practice of his chosen profession until his death, January 8, 1880. He was a medical officer in the Union army during the late war, where he gained a reputation for skill, and the faithful performance of duty. As a physician he was conscientiously scrupulous of his honor, and as a citizen, enterprising and public spirited.

G. R. BALDWIN.
D. C. JONES.

ACT OF INCORPORATION, CONSTITUTION AND BY-LAWS.

AN ACT TO INCORPORATE THE KANSAS MEDICAL SOCIETY.

Be it enacted by the Governor and Legislative Assembly of the Territory of Kansas:

SECTION 1. Amory Hunting, S. B. Prentiss, J. P. Root, A. Fuller, C. F. Kob, J. W. Robinson, J. B. Wheeler, L. C. Tolles, S. C. Harrington, A. Danford, C. E. Miner, J. B. Woodward, W. Madison, J. H. Phelps, O. Brown, Charles Robinson, M. F. Holladay, H. J. Canniff, A. J. Ritchie, M. Bailey, J. M. Pelot, H. H. Beals, J. G. Blunt, T. Linsey, G. W. Beaumont, J. Leigh, A. Newman, H. Harttman, Wm. Graham, and their associates and successors who shall be elected to membership as hereinafter provided, are hereby constituted a body corporate and politic by the name of THE KANSAS MEDICAL SOCIETY, and shall have perpetual succession forever. Said Society may have a common seal, and change or alter the same at pleasure.

SEC. 2. That members of said Society, in their corporate capacity, may elect such officers as they shall judge necessary for its government and management of its affairs, determine the name, power, duty and term of office of each; also the time and manner of said elections.

SEC. 3. Said Society, by and in their corporate name, may have all the rights, privileges and powers of a natural person in law and equity.

SEC. 4. Said Society may elect such persons to membership as they shall judge proper, and shall have power to expel, suspend or disfranchise the same, as members, from all the rights and privileges of the Society; but such expulsion, suspension or disfranchisement shall be

by a vote of two-thirds of all the members present at a regular meeting of said Society, of which due notice shall have been given.

SEC. 5. Said Society shall have full power to make and enforce by-laws and impose and collect at law any reasonable fines, not exceeding fifty dollars, as may be provided in said by-laws, for any and every violation or infraction thereof.

SEC. 6. Said Society shall issue certificates of membership to all its members, under such regulations as its by-laws may prescribe, and may also grant licenses to all respectable physicians, non-graduates, who shall, on examination, be found qualified for the practice of medicine and surgery, or either, to practice those branches for which they are found qualified.

SEC. 7. Any three members of said Society may organize county or auxiliary societies in any county of this Territory; and said auxiliary societies, when so organized, shall have all the powers and privileges, in the corporate name which they may adopt, that are conferred by this act upon the Kansas Medical Society; and the officers of said auxiliary societies shall be honorary members of the Kansas Medical Society.

SEC. 8. A meeting of the corporators, or a part thereof, shall be held in Lawrence, on February 10th, A. D. 1859, for the purpose of electing the first officers and completing the organization.

SEC. 9. This act to take effect and be in force from and after its passage.

A. LARZELERE,
Speaker of the House of Representatives.

C. W. BABCOCK,
President of the Council.

Approved February 10, 1859. S. MEDARY, *Governor.*

By virtue of the powers granted in the preceding Charter, and in conformity with the provisions of the present Constitution, we do ordain and establish the following Constitution and By-Laws for the government of THE KANSAS MEDICAL SOCIETY, to be in force from and after this date.

Done at Topeka, May 12, 1869.

CONSTITUTION.

ARTICLE I.—*Objects.*

The objects of this Society shall be the increase and diffusion of the knowledge and usefulness of the science and the art of medicine and surgery, and to harmonize the intercourse of the medical profession in this State.

ARTICLE II.—*Membership.*

The members of this Society shall consist of such regular practitioners of medicine, residing in this State, as may be elected and qualified as directed by the by-laws. Gentlemen eminent in the profession,

who are non-residents of this State, or graduates of medicine who reside in this State and have retired from practice, may be elected honorary members.

ARTICLE III.—*Officers.*

The officers of this Society shall consist of a President, two Vice-Presidents, a Secretary and Assistant Secretary, a Treasurer, and five Censors, who shall be elected at the annual meetings, and hold their offices for one year, and until their successors are elected and installed. They shall respectively perform such duties as may be required of them by the by-laws and resolutions of this Society.

ARTICLE IV.—*Meetings.*

One regular meeting shall be held each year, to be designated the "Annual Meeting," which shall be at such time and place, from year to year, as the Society may elect. Special meetings may be held as provided by the by-laws.

ARTICLE V.—*Funds.*

The funds of this Society shall consist of the initiation fees, annual dues, assessments, fines, and donations. No appropriation of money from the treasury or disposition of any property of the Society shall be made at other than at an annual meeting.

ARTICLE VI.—*Punishments.*

Any member may be fined, suspended, expelled, or otherwise punished, in the manner provided in the by-laws; but no member shall be suspended or expelled except at an annual meeting, and upon written charges, and after having been duly notified by the Secretary of the nature of the charges, and of the time and place of trial.

ARTICLE VII.—*Code of Ethics.*

The Code of Ethics of this Society shall always be the code adopted by the American Medical Association.

ARTICLE VIII.—*Auxiliary Societies.*

Auxiliary societies may be organized, and may grant licenses to non-graduates, only under such rules and regulations as shall be prescribed by this Society.

ARTICLE IX.—*Amendments.*

This Constitution may be amended or altered by the proposed amendment or alteration being submitted in full, in writing, at an annual meeting, and spread upon the minutes. At the next annual meeting it may be taken up and acted upon; and if the proposed amendment, or the substance thereof, receives the votes of at least three-fourths of the members present, it shall be adopted.

BY-LAWS.

ARTICLE I.—*Membership.*

SECTION 1. The qualifications for admission to membership in this Society shall be as follows: The candidate must be a respectable practitioner of medicine, and must have a good moral character, and be a graduate of a respectable medical college. Satisfactory proof of these qualifications must be furnished the Censors.

SEC. 2. An application having been reported upon by the Censors, the vote shall be taken by the Society by ballot. If two-thirds of those voting are in favor thereof the candidate shall be declared elected, and, upon signing the Constitution and paying the initiation fee, shall be admitted to full membership.

SEC. 3. No candidate shall be present at the meeting of the Society after his nomination, until his case has been disposed of.

ARTICLE II.—*Duties of Officers.*

SECTION 1. The terms of the officers shall commence at the close of the meeting at which they are elected.

SEC. 2. The President shall preside at all meetings of the Society, preserve order, appoint all committees not otherwise provided for, sign all orders upon the Treasurer for the payment of money, when authorized to do so by the Society, and perform such other duties as the Society, or parliamentary usage, may require of him. At the annual meeting, at the close of his term of office, he shall deliver an address upon some appropriate subject.

SEC. 3. In the absence of the President, the first Vice-President, and in his absence also, the second Vice-President shall act as President. In the absence of the President and both the Vice-Presidents, the Society shall elect a President *pro tempore.*

SEC. 4. The Secretary shall keep a correct record of all the proceedings of the Society, and prepare the same for publication, and shall have charge of and carefully preserve all the books, papers and other documents of the Society, and keep a list of the members, with their post-office address; notify new members of their election within thirty days thereafter; conduct the correspondence; attest all orders drawn upon the Treasurer by order of the Society; and discharge such other duties as may be required of him, and make a report of his doings, and the condition of the Society, at each annual meeting.

SEC. 5. The Assistant Secretary shall render to the Secretary such aid as he may require, and, in his absence, discharge his duties.

SEC. 6. The Treasurer shall have charge of the funds of the Society, collect all fees, dues and fines promptly, and keep a correct account thereof; pay out moneys only on orders signed by the President and attested by the Secretary; and, at each annual meeting, submit a de-

tailed report of the exact condition of the treasury; and, at the end of his term, hand over to his successor all the moneys and other property in his possession belonging to his office.

SEC. 7. All applications for membership must be referred to the Censors, who shall immediately consider the same and investigate the qualifications of the candidates, as required by sections 1 and 2 of article I of these By-Laws, and report to the Society the facts in each case, together with their opinion as to the propriety of electing said candidates.

ARTICLE III.—*Committees.*

SECTION 1. Four regular committees shall be appointed at each annual meeting, to report at the next annual meeting, to wit: A Committee on Practical Medicine; a Committee on Surgery; a Committee on Obstetrics; and a Committee on Materia Medica. Special committees may be appointed to report on special subjects, on recommendation of the Nominating Committee.

SEC. 2. The Committee on Nominations shall consist of one member from each county represented in the meeting of the Society, who shall report to the Society the names of suitable persons for officers and for the regular committees for the ensuing year. They may also nominate special committees to report on such subjects as they may deem advisable. A Committee on Necrology shall be appointed at each annual meeting, who shall make appropriate obituary reports of members deceased during the year.

SEC. 3. A Committee on Publication shall be appointed at each annual meeting, of which the Secretary shall be *ex officio* a member, whose duty it shall be to superintend the publication of the Transactions. Other committees shall be appointed from time to time, as may be required.

ARTICLE IV.—*Funds.*

SECTION 1. *Fees and Dues.*—The initiation fee shall be three dollars. Every member shall pay one dollar dues, annually, to be collected at the annual meeting. Assessments may be made at any meeting, by a vote of two-thirds of the members present.

SEC. 2. *Fines.*—An officer or member neglecting to discharge any duty assigned him, the obligation of which he has accepted, shall stand fined one dollar for such neglect, which may, for sufficient reasons, be remitted by a vote of the Society.

SEC. 3. *Punishments.*—The penalty for a violation of the Constitution, By-Laws, or Code of Ethics, shall be fine, suspension, or expulsion. An affirmative vote of two-thirds of the members present, and a compliance with section 6 of the Constitution, shall be necessary for suspension or expulsion.

SEC. 4. A member neglecting or refusing to pay his dues or fines for

two years after the same shall have become due, shall forfeit his membership, and his name shall be dropped from the roll.

ARTICLE V.—*Miscellaneous.*

SECTION 1. *Quorum.*—Seven members shall constitute a quorum for the transaction of business.

SEC. 2. *Special Meetings.*—Special meetings may be called by the President and Secretary, on the written request of seven members, the Secretary to give twenty days' notice to each member, of the time, place, and objects of said meeting; and no business shall be transacted except such as shall have been designated in the call.

SEC. 3. *Notices.*—A notice shall be valid which has been served personally, or by writing, deposited in the post office, to the address of the party.

SEC. 4. Parliamentary usage shall govern in the transaction of business, when not otherwise provided for.

SEC. 5. *Amendments.*—These By-Laws may be suspended or amended at an annual meeting, by a resolution submitted in writing, and receiving a two-thirds majority of the members present.

ORDER OF BUSINESS.

After the Society is called to order the following shall be the order of business, unless otherwise provided:

1. Reading the minutes of the previous meeting.
2. Calling the roll of members.
3. Receiving and referring applications for membership.
4. Report of Censors.
5. Election of members.
6. Appointment of Nominating Committee.
7. Reports of Officers.
8. Reports of Regular Committees.
9. Reports of Special Committees.
10. Reading of volunteer papers and communications.
11. Report of Nominating Committee, and action on the same.
12. Miscellaneous business.
13. Valedictory address of the President.
14. Adjournment.

CODE OF MEDICAL ETHICS.

OF THE DUTIES OF PHYSICIANS TO THEIR PATIENTS, AND OF THE OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

ARTICLE I.—*Duties of Physicians to their Patients.*

SECTION 1. A physician should not only be ever ready to obey the calls of the sick, but his mind ought also to be imbued with the greatness of his mission, and the responsibility he habitually incurs in its discharge. Those obligations are the more deep and enduring, because there is no tribunal other than his own conscience to adjudge penalties for carelessness or neglect. Physicians should therefore minister to the sick with due impressions of the importance of their office; reflecting that the ease, the health, and the lives of those committed to their charge depend on their skill, attention, and fidelity. They should study, also, in their deportment, so to unite *tenderness* with *firmness*, and *condescension* with *authority*, as to inspire the minds of their patients with gratitude, respect, and confidence.

SEC. 2. Every case committed to the charge of a physician should be treated with attention, steadiness, and humanity. Reasonable indulgence should be granted to the mental imbecility and caprices of the sick. Secresy and delicacy, when required by peculiar circumstances, should be strictly observed; and the familiar and confidential intercourse to which physicians are admitted, in their professional visits, should be used with discretion, and with the most scrupulous regard to fidelity and honor. The obligation of secresy extends beyond the period of professional services: none of the privacies of personal and domestic life, no infirmity of disposition or flaw of character observed during professional attendance, should ever be divulged by the physician, except when he is imperatively required to do so. The force and necessity of this obligation are indeed so great that professional men have, under certain circumstances, been protected in their observance of secresy by courts of justice.

SEC. 3. Frequent visits to the sick are in general requisite, since they enable the physician to arrive at a more perfect knowledge of the disease, to meet promptly every change which may occur, and also tend to preserve the confidence of the patient. But unnecessary visits are to be avoided, as they give useless anxiety to the patient, tend to diminish the authority of the physician, and render him liable to be suspected of interested motives.

SEC. 4. A physician should not be forward to make gloomy prognostications, because they savor of empiricism, by magnifying the importance of his services in the treatment or cure of the disease. But he should not fail, on proper occasions, to give to the friends of

the patient timely notice of danger when it really occurs; and even to the patient himself, if absolutely necessary. This office, however, is so peculiarly alarming when executed by him, that it ought to be declined whenever it can be assigned to any other person of sufficient judgment and delicacy. For the physician should be the minister of hope and comfort to the sick; that, by such cordials to the drooping spirits, he may smooth the bed of death, revive expiring life, and counteract the depressing influence of those maladies which often disturb the tranquility of the most resigned in their last moments. The life of a sick person can be shortened not only by the acts, but also by the words or the manner of a physician. It is therefore a sacred duty to guard himself carefully in this respect, and to avoid all things which have a tendency to discourage the patient and to depress his spirits.

SEC. 5. A physician ought not to abandon a patient because the case is deemed incurable; for his attendance may continue to be highly useful to the patient, and comforting to the relatives around him, even in the last period of a fatal malady, by alleviating pain and other symptoms, and by soothing mental anguish. To decline attendance, under such circumstances, would be sacrificing, to a fanciful delicacy and mistaken liberality, that moral duty which is independent of, and far superior to, all pecuniary consideration.

SEC. 6. Consultations should be promoted in difficult or protracted cases, as they give rise to confidence, energy, and more enlarged views in practice.

SEC. 7. The opportunity which a physician not unfrequently enjoys of promoting and strengthening the good resolutions of his patient, suffering under the consequences of vicious conduct, ought never to be neglected. His counsels, or even remonstrances, will give satisfaction, not offense, if they be offered with politeness, and evince a genuine love of virtue, accompanied by sincere interest in the welfare of the person to whom they are addressed.

ARTICLE II.—*Obligations of Patients to their Physicians.*

SECTION 1. The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties towards the community, and who are required to make so many sacrifices of comfort, ease and health, for the welfare of those who avail themselves of their services, certainly have a right to expect and require that their patients should entertain a just sense of the duties which they owe to their medical attendants.

SEC. 2. The first duty of a patient is to select, as his medical adviser, one who has received a regular professional education. In no trade or occupation do mankind rely on the skill of an untaught artist; and in

medicine, confessedly the most difficult and intricate of the sciences, the world ought not to suppose that knowledge is intuitive.

SEC. 3. Patients should prefer a physician whose habits of life are regular, and who is not devoted to company, pleasure, or to any pursuit incompatible with his professional obligations. A patient should, also, confide the care of himself and family as much as possible to one physician; for a medical man who has become acquainted with the peculiarities of constitution, habits and predisposition of those he attends, is more likely to be successful in his treatment than one who does not possess that knowledge. A patient who has thus selected his physician should always apply for advice in what may appear to him trivial cases, for the most fatal results often supervene on the slightest accidents. It is of still more importance that he should apply for assistance in the forming stage of violent diseases; it is to a neglect of this precept that medicine owes much of the uncertainty and imperfection with which it has been reproached.

SEC. 4. Patients should faithfully and unreservedly communicate to their physician the supposed cause of their disease. This is the more important, as many diseases of a mental origin simulate those depending on external causes, and yet are only to be cured by ministering to the mind diseased. A patient should never be afraid of thus making his physician his friend and adviser; he should always bear in mind that a medical man is under the strongest obligations of secresy. Even the female sex should never allow feelings of shame or delicacy to prevent their disclosing the seat, symptoms and causes of complaints peculiar to them. However commendable a modest reserve may be in the common occurrences of life, its strict observance in medicine is often attended with the most serious consequences, and a patient may sink under a painful and loathsome disease, which might have been readily prevented had timely intimation been given to the physician.

SEC. 5. A patient should never weary his physician with a tedious detail of events or matters not appertaining to his disease. Even as relates to his actual symptoms, he will convey much more real information by giving clear answers to interrogatories, than by the most minute account of his own framing. Neither should he obtrude upon his physician the details of his business nor the history of his family concerns.

SEC. 6. The obedience of a patient to the prescriptions of his physician should be prompt and implicit. He should never permit his own crude opinions as to their fitness to influence his attention to them. A failure in one particular may render an otherwise judicious treatment dangerous, and even fatal. This remark is equally applicable to diet, drink, and exercise. As patients become convalescent they are very apt to suppose that the rules prescribed for them may be disregarded, and the consequence but too often is a relapse. Patients should never allow themselves to be persuaded to take any medicine whatever that may be

recommended to them by the self-constituted doctors and doctresses who are so frequently met with, and who pretend to possess infallible remedies for the cure of every disease. However simple some of their prescriptions may appear to be, it often happens that they are productive of much mischief; and in all cases they are injurious, by contravening the plan of treatment adopted by the physician.

SEC. 7. A patient should, if possible, avoid even the *friendly visits of a physician* who is not attending him—and when he does receive them, he should never converse on the subject of his disease, as an observation may be made, without any intention of interference, which may destroy his confidence in the course he is pursuing, and induce him to neglect the directions prescribed to him. A patient should never send for a consulting physician without the express consent of his own medical attendant. It is of great importance that physicians should act in concert; for although their modes of treatment may be attended with equal success when employed singly, yet conjointly they are very likely to be productive of disastrous results.

SEC. 8. When a patient wishes to dismiss his physician, justice and common courtesy require that he should declare his reasons for so doing.

SEC. 9. Patients should always, when practicable, send for their physicians in the morning, before his usual hour for going out; for, by being early aware of the visits he has to pay during the day, the physician is able to apportion his time in such a manner as to prevent an interference of engagements. Patients should also avoid calling on their medical adviser unnecessarily during the hours devoted to meals or sleep. They should always be in readiness to receive the visits of their physician, as the detention of a few minutes is often of serious inconvenience to him.

SEC. 10. A patient should, after his recovery, entertain a just and enduring sense of the value of the services rendered him by his physician; for these are of such a character that no mere pecuniary acknowledgment can repay or cancel them.

OF THE DUTIES OF PHYSICIANS TO EACH OTHER, AND TO THE PROFESSION AT LARGE.

ARTICLE I.—*Duties for the Support of Professional Character.*

SECTION 1. Every individual, on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness. He should therefore observe strictly such laws as are instituted for the government of its members; should also avoid all contumelious and sarcastic remarks relative to the faculty as a body; and while, by unwearied diligence, he resorts to every honorable means of enriching the science,

he should entertain a due respect for his seniors, who have by their labors brought it to the elevated condition in which he finds it. It is not in accord with the interests of the public and the honor of the profession that any physician or medical teacher should examine or sign diplomas or certificates of proficiency for, or otherwise be specially concerned with, the graduation of persons whom he has good reason to believe intend to support and practice any exclusive and irregular system of medicine.

SEC. 2. There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required, than the medical; and to attain such eminence is a duty every physician owes alike to his profession and his patients. It is due to the latter, as without it he cannot command their respect and confidence; and to both, because no scientific attainments can compensate for the want of correct moral principles. It is also incumbent upon the faculty to be temperate in all things, for the practice of physic requires the unremitting exercise of a clear and vigorous understanding; and, on emergencies, for which no professional man should be unprepared, a steady hand, an acute eye, and an unclouded head may be essential to the well-being and even to the life of a fellow-creature.

SEC. 3. It is derogatory to the dignity of the profession to resort to public advertisements or private cards, or handbills, inviting the attention of individuals affected with particular diseases, publicly offering advice and medicine to the poor gratis, or promising radical cures; or to publish cases and operations in the daily prints, or suffer such publications to be made; to invite laymen to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly reprehensible in a regular physician.

SEC. 4. Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine; or to dispense a secret *nostrum*, whether it be the composition or exclusive property of himself or others — for, if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and, if mystery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them.

ARTICLE II.—*Professional Services of Physicians to each other.*

SECTION 1. All practitioners of medicine, their wives, and their children while under the paternal care, are entitled to the gratuitous services of any one or more of the faculty residing near them, whose assistance may be desired. A physician afflicted with disease is usually an incom-

petent judge of his own case; and the natural anxiety and solicitude which he experiences at the sickness of a wife, a child, or anyone who by the ties of consanguinity is rendered peculiarly dear to him, tend to obscure his judgment, and produce timidity and irresolution in his practice. Under such circumstances medical men are peculiarly dependent upon each other, and kind offices and professional aid should always be cheerfully and gratuitously afforded. Visits ought not, however, to be obtruded officiously, as such unasked civility may give rise to embarrassment, or interfere with that choice on which confidence depends; but if a distant member of the faculty, whose circumstances are affluent, request attendance, and an honorarium be offered, it should not be declined; for no pecuniary obligation ought to be imposed, which the party receiving it would wish not to incur.

ARTICLE III.—*Of the Duties of Physicians as respects Vicarious Offices.*

SECTION 1. The affairs of life, the pursuit of health, and the various accidents and contingencies to which a medical man is peculiarly exposed, sometimes require him temporarily to withdraw from his duties to his patients, and to request some of his professional brethren to officiate for him. Compliance with this request is an act of courtesy, which should always be performed with the utmost consideration for the interest and character of the family physician, and, when exercised for a short period, all the pecuniary obligations for such service should be awarded to him. But if a member of the profession neglect his business in quest of pleasure and amusement, he cannot be considered as entitled to the advantages of the frequent and long-continued exercise of this fraternal courtesy without awarding to the physician who officiates the fees arising from the discharge of his professional duties. In obstetrical and important surgical cases, which give rise to unusual fatigue, anxiety and responsibility, it is just that the fees accruing therefrom should be awarded to the physician who officiates.

ARTICLE IV.—*Of the Duties of Physicians in regard to Consultations.*

SECTION 1. A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession. Nevertheless, as in consultations the good of the patient is the sole object in view, and this is often dependent on personal confidence, no intelligent regular practitioner, who has a license to practice from some medical board of known and acknowledged respectability, recognized by the American Medical Association, and who is in good moral and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultation when it is requested by the patient. But no one can be considered as a regular practitioner, or a fit associate in consultation, whose practice is based on an exclusive dogma, to the

rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry.

SEC. 2. In consultation no rivalship or jealousy should be indulged; candor, probity, and all due respect, should be exercised towards the physician having charge of the case.

SEC. 3. In consultations the attending physician should be the first to propose the necessary questions to the sick, after which the consulting physician should have the opportunity to make such further inquiries of the patient as may be necessary to satisfy him of the true character of the case; both physicians should then retire to a private place for deliberation; and the one first in attendance should communicate the directions agreed upon to the patient or his friends, as well as any opinion which it may be thought proper to express; but no statement or discussion of it should take place before the patient or his friends, except in the presence of all the faculty attending, and by their common consent; and no *opinions* or *prognostications* should be delivered which are not the result of previous deliberation and concurrence.

SEC. 4. In consultations the physician in attendance should deliver his opinion first; and, when there are several consulting, they should deliver their opinions in the order in which they have been called in. No decision, however, should restrain the attending physician from making such variations in the mode of treatment as any subsequent unexpected change in the character of the case may demand. But such variation, and the reasons for it, ought to be carefully detailed at the next meeting in consultation. The same privilege belongs also to the consulting physician, if he is sent for in an emergency, when the regular attendant is out of the way, and similar explanations must be made by him at the next consultation.

SEC. 5. The utmost punctuality should be observed in the visits of physicians when they are to hold consultation together, and this is generally practicable, for society has been considerate enough to allow the plea of a professional engagement to take precedence of all others, and to be an ample reason for the relinquishment of any present occupation. But as professional engagements may sometimes interfere, and delay one of the parties, the physician who first arrives should wait for his associate a reasonable period, after which the consultation should be considered as postponed to a new appointment. If it be the attending physician who is present, he will of course see the patient, and prescribe; but if it be the consulting one, he should retire, except in case of emergency, or when he has been called from a considerable distance, in which latter case he may examine the patient and give his opinion in *writing*, and *under seal*, to be delivered to his associate.

SEC. 6. In consultations theoretical discussions should be avoided,

as occasioning perplexity and loss of time; for there may be much diversity of opinion concerning speculative points, with perfect agreement in those modes of practice which are founded, not on hypothesis, but on experience and observation.

SEC. 7. All discussions in consultation should be held as secret and confidential. Neither by words nor manner should any of the parties to a consultation assert or insinuate that any part of the treatment pursued did not receive his assent. The responsibility must be equally divided between the medical attendants — they must equally share the credit of success as well as the blame of failure.

SEC. 8. Should an irreconcilable diversity of opinion occur when several physicians are called upon to consult together, the opinion of the majority should be considered as decisive; but if the numbers be equal on each side, then the decision should rest with the attending physician. It may, moreover, sometimes happen, that two physicians cannot agree in their views of the nature of a case, and the treatment to be pursued. This is a circumstance much to be deplored, and should always be avoided if possible, by mutual concessions, as far as they can be justified by a conscientious regard for the dictates of judgment. But, in the event of its occurrence, a third physician should, if practicable, be called to act as umpire; and if circumstances prevent the adoption of this course, it must be left to the patient to select the physician in whom he is most willing to confide. But as every physician relies upon the rectitude of his judgment, he should, when left in the minority, politely and consistently retire from any further deliberation in the consultation, or participation in the management of the case.

SEC. 9. As circumstances sometimes occur to render a *special consultation* desirable, when the continued attendance of two physicians might be objectionable to the patient, the member of the faculty whose assistance is required in such cases should sedulously guard against all future unsolicited attendance. As such consultations require an extraordinary portion both of time and attention, at least a double honorarium may be reasonably expected.

SEC. 10. A physician who is called upon to consult should observe the most honorable and scrupulous regard for the character and standing of the practitioner in attendance; the practice of the latter, if necessary, should be justified, as far as it can be consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in him, or affect his reputation. The consulting physician should also carefully refrain from any of those extraordinary attentions or assiduities which are too often practiced by the dishonest for the base purpose of gaining applause, or ingratiating themselves into the favor of families and individuals.

ARTICLE V.—*Duties of Physicians in Cases of Interference.*

SECTION 1. Medicine is a liberal profession, and those admitted into its ranks should found their expectation of practice upon the extent of their qualifications, not intrigue or artifice.

SEC. 2. A physician, in his intercourse with a patient under the care of another practitioner, should observe the strictest caution and reserve. No meddling inquiries should be made, no disingenuous hints given relative to the nature and treatment of his disorder, nor any course of conduct pursued that may directly or indirectly tend to diminish the trust reposed in the physician employed.

SEC. 3. The same circumspection and reserve should be observed when, from motives of business or friendship, a physician is prompted to visit an individual who is under the direction of another practitioner. Indeed, such visits should be avoided, except under peculiar circumstances, and, when they are made, no particular inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

SEC. 4. A physician ought not to take charge of or prescribe for a patient who has recently been under the care of another member of the faculty in the same illness, except in cases of sudden emergency, or in consultation with the physician previously in attendance, or when the latter has relinquished the case, or been regularly notified that his services are no longer desired. Under such circumstances no unjust or illiberal insinuations should be thrown out in relation to the conduct or practice previously pursued, which should be justified as far as candor and regard for truth and probity will permit; for it often happens that patients become dissatisfied when they do not experience immediate relief, and, as many diseases are naturally protracted, the want of success in the first stage of treatment affords no evidence of a lack of professional knowledge and skill.

SEC. 5. When a physician is called to an urgent case because the family attendant is not at hand, he ought, unless his assistance in consultation be desired, to resign the care of the patient to the latter immediately upon his arrival.

SEC. 6. It often happens in cases of sudden illness, or of recent accidents and injuries, owing to the alarm and anxiety of friends, that a number of physicians are simultaneously sent for. Under these circumstances courtesy should assign the patient to the first who arrives, who shall select from those present any additional assistance that he may deem necessary. In all such cases, however, the practitioner who officiates should request the family physician, if there be one, to be called, and, unless his further attendance be requested, should resign the case to the latter on his arrival.

SEC. 7. When a physician is called to the patient of another prac-

titioner, in consequence of the sickness or absence of the latter, he ought on the return or recovery of the regular attendant, and with the consent of the patient, to surrender the case.

[The expression, "patient of another practitioner," is understood to mean a patient who may have been under the charge of another practitioner at the time of the attack of sickness or departure from home of the latter, or who may have called for his attendance during his absence or sickness, or, in any other manner, given it to be understood that he regarded the said physician as his regular medical attendant.]

SEC. 8. A physician, when visiting a sick person in the country, may be desired to see a neighboring patient who is under the regular direction of another physician, in consequence of some sudden change or aggravation of symptoms. The conduct to be pursued on such an occasion is to give advice adapted to present circumstances; to interfere no further than is absolutely necessary with the general plan of treatment; to assume no future direction, unless it be expressly desired; and, in this last case, to request an immediate consultation with the practitioner previously employed.

SEC. 9. A wealthy physician should not give advice gratis to the affluent, because his doing so is an injury to his professional brethren. The office of a physician can never be supported as an exclusively beneficent one; and it is defrauding, in some degree, the common funds for its support, when fees are dispensed with which might justly be claimed.

SEC. 10. When a physician who has been engaged to attend a case of midwifery is absent, and another is sent for, if delivery is accomplished during the attendance of the latter he is entitled to the fee, but should resign the patient to the practitioner first engaged.

ARTICLE VI.—*Of Differences between Physicians.*

SECTION 1. Diversity of opinion and opposition of interest may, in the medical as in other professions, sometimes occasion controversy, and even contention. Whenever such cases unfortunately occur, and cannot be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians or a *court-medical;* or, where both are members of the medical society of their county, to the Censors.

SEC. 2. As peculiar reserve must be maintained by physicians toward the public, in regard to professional matters, and as there exist numerous points in medical ethics and etiquette through which the feelings of medical men may be painfully assailed in their intercourse with each other, and which cannot be understood or appreciated by general society, neither the subject-matter of such differences nor the adjudication of the arbitrators should be made public, as publicity, in a case of this nature, may be personally injurious to the individuals concerned, and can hardly fail to bring discredit on the faculty.

ARTICLE VII.—*Of Pecuniary Acknowledgments.*

Some general rules should be adopted by the faculty, in every town or district, relative to *pecuniary acknowledgments* from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

OF THE DUTIES OF THE PROFESSION TO THE PUBLIC, AND OF THE OBLIGATIONS OF THE PUBLIC TO THE PROFESSION.

ARTICLE I.—*Duties of the Profession to the Public.*

SECTION 1. As good citizens, it is the duty of physicians to be ever vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession—as on subjects of medical police, public hygiene, and legal medicine. It is their province to enlighten the public in regard to quarantine regulations; the location, arrangement, and dietaries of hospitals, asylums, schools, prisons, and similar institutions; in relation to the medical police of towns—as drainage, ventilation, etc.; and in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives.

SEC. 2. Medical men should also be always ready, when called on by the legally-constituted authorities, to enlighten coroners' inquests and courts of justice on subjects strictly medical—such as involve questions relating to sanity, legitimacy, murder by poisons or other violent means, and in regard to the various other subjects embraced in the science of medical jurisprudence; but in these cases, and especially where they are required to make a *post-mortem* examination, it is just, in consequence of the time, labor, and skill required, and the responsibility and risk they incur, that the public should award them a proper honorarium.

SEC. 3. There is no profession by the members of which eleemosynary services are more liberally dispensed than the medical, but justice requires that some limit should be placed to the performance of such good offices. Poverty, professional brotherhood, and certain of the public duties referred to in the first section of this article, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public, nor by rich individuals, societies for mutual benefit, for the insurance of lives for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege. Nor can it be justly expected of physicians to furnish certificates of inability to serve on juries, to perform militia duty, or to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without a pecuniary acknowledgment; but

to individuals in indigent circumstances such professional services should always be cheerfully and freely accorded.

SEC. 4. It is the duty of physicians, who are frequent witnesses of the enormities committed by quackery, and the injury to health and even destruction of life caused by the use of quack medicines, to enlighten the public on these subjects, to expose the injuries sustained by the unwary from the devices and pretensions of artful empirics and impostors. Physicians ought to use all the influence which they may possess, as professors in colleges of pharmacy, and by exercising their option in regard to the shops to which their prescriptions shall be sent, to discourage druggists and apothecaries from vending quack or secret medicines, or from being in any way engaged in their manufacture and sale.

ARTICLE II.—*Obligations of the Public to Physicians.*

The benefits accruing to the public, directly or indirectly, from the active and unwearied beneficence of the profession, are so numerous and important, that physicians are justly entitled to the utmost consideration and respect from the community. The public ought likewise to entertain a just appreciation of medical qualifications; to make proper discrimination between true science and the assumptions of ignorance and empiricism; to afford every encouragement and facility for the acquisition of medical education—and no longer allow the statute books to exhibit the anomaly of exacting knowledge from physicians, under a liability to heavy penalties, and of making them obnoxious to punishment for resorting to the only means of obtaining it.

TRANSACTIONS, 1882.

EMPORIA, KANSAS, May 9, 1882.

The sixteenth annual meeting of the Kansas Medical Society convened at Whitley's Opera House, Emporia, at 5 P. M., Tuesday, May 9th, 1882, and, in the absence of Dr. J. H. Stuart, the President, was called to order by First Vice-President Dr. G. W. Haldeman.

On motion of Dr. Robertson, the reading of the minutes of the previous meeting was dispensed with, and they were adopted as printed.

On roll-call, the following members responded: Drs. Adams, G. R. Baldwin, Bell, Boyd, Buck, Blakely, M. O. Baldwin, Burgen, Cochrane, J. W. Carpenter, Carson, Coons, Cunkle, Chittenden, Coleman, Craig, Conry, Cazier, Fryer, Fulton, Gephart, Grass, Haldeman, Hannawalt, J. B. Hibben, Hill, W. W. Hibben, Jacobs, D. C. Jones, Lanphear, Lawrence, Longshore, Morse, Mottram, Mitchell, W. S. Mendenhall, McCully, Miner, Robertson, Stormont, Schenck.

Drs. J. M. Carpenter and D. C. Jones were appointed to fill vacancies in the Board of Censors.

The Treasurer submitted his annual report, as follows:

ATCHISON, KANSAS, May 9, 1882.

W. W. COCHRANE, Treasurer,
In account with the Kansas Medical Society.

To balance on hand for 1881	$358 00	
To dues for 1881	296 00	
		$654 00
By amount paid Secretary	$41 35	
By amount paid for church	15 00	
By amount paid Guthrie & Brown	100 00	
By amount paid for Transactions, 1881	142 74	
		299 09
Balance on hand		$354 91

W. W. COCHRANE, *Treasurer.*

On motion, the report of Treasurer was referred to the Auditing Committee, Drs. G. R. Baldwin, Coons, and Stormont.

The Secretary submitted the following report, which was received, and placed on file:

I have the honor to submit the following report for the past year.

Four hundred and fifty copies of the Transactions were printed, at a cost of $142.74. Of these there now remain about 75. The Society is greatly indebted to Dr. Lanphear, of the Committee on Publication, who kindly took the whole charge of publishing the Transactions. Copies have been exchanged with other State societies, and about 80 volumes are now on hand.

Great delay was experienced in publishing the Transactions, because the members

neglected to send in their papers. It is almost impossible to print them without the manuscripts.

Arrangements have been made for reduced rates over the railroads as follows: The A. T. & S. F. will return members at the rate of one cent per mile, on presenting certificates from your Secretary. The Missouri Pacific will return for one-fourth fare, on presenting certificates. At Clyde and Emporia the Kansas Division of the U. P. sold round-trip tickets to members holding certificates. These were sent to most of the members living along the line, that they might avail themselves of it.

Respectfully submitted.

Lawrence, May 9, 1882. F. D. MORSE, *Secretary.*

The Secretary presented bill for printing, etc., of $23.35, which was referred to the Auditing Committee.

Dr. Coleman announced to the Society the death of T. S. Floyd, M. D., and a committee on Necrology was appointed to prepare appropriate resolutions of respect, consisting of Drs. Coleman, Fryer, and Mottram.

The Board of Censors reported favorably on the petition for membership of the following persons: B. F. Masterman, M. D., D. Dunn, M. D., Independence; E. D. F. Phillips, M. D., North Lawrence; J. D. Sherrick, M. D., Newton; J. A. Hopkins, M. D., Parkerville; J. H. Pleasants, M. D., Cambridge; Lewis S. Hall, M. D., Augusta; R. Aikman, M. D., Fort Scott; W. A. Furguson, M. D., W. W. Campbell, M. D., C. M. Byram, M. D., Atchison; J. H. Page, M. D., J. M. Filkens, M. D., J. J. Wright, M. D., C. H. Biddle, M. D., Emporia; J. A. Lane, M. D., Leavenworth; C. H. Steiner, M. D., Baxter Springs; J. Martin, M. D., Augusta Conry, M. D., Florence.

On motion, the report was adopted, and the Secretary was ordered to cast the ballot in their favor.

Motion was made that the announcement of the Nominating Committee be postponed until Wednesday morning. Carried.

The Society then adjourned, to meet at 7:30 P. M.

EVENING SESSION.

The Society met, pursuant to adjournment; Vice-President Dr. Haldeman in the chair.

The Board of Censors reported favorably on the petition for membership of Drs. D. J. Holland, Atchison; John McClintock, Topeka.

On motion, the report was adopted, and the Secretary ordered to cast the ballot in their favor.

Dr. W. L. Schenck was called to the chair, and Dr. Haldeman then delivered the President's address, which was referred to the Publication Committee, with orders to publish it in the Transactions.

On motion, that part of the address referring to State medicine and hygiene was referred to that committee, and the remainder to a special committee consisting of Drs. D. C. Jones, Schenck, Lane, and Lanphear.

Reconsideration was had of the vote postponing the announcement of the Nominating Committee to Wednesday morning.

The President then announced the following Nominating Committee:

Drs. Lanphear, Fulton, Hill, Hannawalt, Mendenhall, Blakely, Mottram, Cunkle, Coleman, Gephart, Bell, Fryer, Jacobs, Buck, J. M. Carpenter, Grass, Adams, Robertson, Stormont, Ward.

Dr. B. E. Fryer then read a report on the progress of ophthalmology for the past year, which after considerable discussion was referred to the Committee on Publication.

The Board of Censors reported favorably on the petition of Drs. M. F. Leary and C. J. Holmes of Gaylord, for membership. The report was adopted, and the Secretary directed to cast the ballot in their favor.

Dr. W. A. McCully made some remarks on surgical appliances, which was followed by free discussion on the subject of plaster-paris bandages.

The Society then adjourned to 8:00 A. M., Wednesday morning.

MORNING SESSION.

EMPORIA, KAS., May 10, 1882.

The Society met, according to adjournment, at 8 A. M.; Dr. Haldeman in the chair.

On roll-call, the following additional members were present: Drs. Furley, A. Leigh, Wakefield, Wassam, T. L. Miller, J. L. Jones.

The following report of the Auditing Committee was then adopted:

Your committee, having examined the vouchers of the Treasurer, find his report correct. We also find the report of the Secretary correct, and recommend that the account be paid.

G. R. BALDWIN,
D. W. STORMONT,
J. A. COONS,
Committee.

The Board of Censors reported in favor of admitting to membership J. S. Still, M. D., of Arvonia. The report was adopted, and the ballot ordered in his favor.

Dr. A. Leigh read the report of the Committee on Surgery, which was referred to the Publication Committee.

Dr. J. B. Hibben read a paper on Morality from a Medical Standpoint, which was referred to the same committee.

Dr. Ross offered a resolution, which was referred to a committee consisting of Drs. Stormont, Coons, and J. M. Carpenter.

The report of the Committee on Medical Law and Public Hygiene was called for, and read by the chairman, Dr. Schenck.

It was voted that the report be received, and made the special subject for discussion at 1:30 P. M.

Dr. Bell presented the following resolutions, which were referred to a committee of three, to report this afternoon;

Whereas, The American Medical Association having adopted rules of ethics for the control of the action of the members of the medical profession in their relation to each other, to their patients and to the public at large, which code, in our opinion,

rightfully prevents and positively forbids all recognition and affiliation with quacks and charlatans who may be engaged in the practice of medicine; and

Whereas, The New York State Medical Society having recently changed the Code of Ethics so as to enable its members and those of the regular medical profession of the State in affiliation with them to meet with persons unquestionably outside the pale of the legitimate practice of medicine; and

Whereas, Believing that the regular system of medicine, broad as it is, affording a limitless field for scientific reseach and experiment, being ever ready to recognize and avail itself of any agent, form, mode or process by which the prophylaxis, or the treatment of disease, or the alleviation of human suffering, might be effected, dictated by reason, or justified by the light of intelligent experience, leaves each one of its individual members free to select for himself in the choice and application of remedial agents for the prevention and cure of disease: therefore, be it

Resolved, 1st, That the State Medical Society of Kansas deprecates as unwise, and denounces as unbecoming to the profession, the recent action of the New York State Medical Society, believing that such a course is calculated to prostitute the profession throughout the country, and to disgrace scientific medicine, by inducing its followers to affiliate and fellowship with quacks and charlatans of the most pronounced and specious type.

Resolved, 2d, That this Association, while denouncing such action, would proclaim that the regular profession of medicine in this State stand unalterably opposed to making such sacrifice under either the influence of gilded inducements or of legislative enactments; and, while they hold themselves ever ready at all times to respond to the calls of suffering humanity, they have no compromise to make in the interests of quackery, whether legalized or not, and do not propose to lower the standard of common honesty in the profession in order to gratify a depraved public sentiment.

Resolved, 3d, That the delegates from this Society to the American Medical Association to meet at St. Paul, Minn., be and hereby are instructed to refuse affiliation with the delegates of the New York State Medical Society until they make such amendments to their State code as will harmonize them with the National Code.

[Signed] J. BELL, M.D.

The chair appointed as committee on the above resolutions, Drs. Robertson, Grass, and Hepler.

Dr. Stone presented a pathological specimen, and read a report on a case of Gunshot Wound of the Heart, which was received, and referred to the Committee on Publication.

The committee to whom was referred the resolution of Dr. Ross, reported, and offered the following amendment to section 3, article IV, of the By-Laws:

SEC. 3. The penalty for a violation of the Constitution, By-Laws or Code of Ethics, shall be fine, suspension, or expulsion. The Nominating Committee shall report to the Society the names of nine suitable persons as a Committee on Ethics, to whom shall be referred, without debate, all charges for violations of the Constitution, By-Laws, or Code of Ethics. The committee shall report their decision to the Society, and said decision shall be final and not subject to debate. A compliance with sec. 6 of the Constitution shall be necessary for suspension or expulsion. The first three on the aforesaid committee shall serve for three years, the second three for two years, and the last three for one year; and three shall be appointed annually hereafter for the term of three years.

Anything in the By-Laws conflicting with this amendment is hereby repealed.

[Signed] D. W. STORMONT,
J. M. CARPENTER,
J. A. COONS,
Special Committee.

On motion, the report was adopted, and the amendment carried by vote.

A recess of ten minutes was taken; after which Dr. F. B. Tiffany, of Kansas City, read a paper on Syndectomy, which elicited considerable discussion, and was referred to the Committee on Publication.

The Society then adjourned, to meet at 1:30 P. M.

AFTERNOON SESSION.

The Society met, pursuant to adjournment; Dr. Haldeman in the chair.

Consideration of the report of the Committee on Medical Law was assigned for this hour, and, after considerable discussion of the law proposed, the following resolution was offered and carried:

Resolved, That the bill as prepared by the committee be referred to a committee of five, who shall present it to the Legislature at its next meeting, and urge the passage of the bill. That this committee be empowered to make such changes in the bill as they may deem best for the interest of public health and the profession.

The following were appointed such committee: Drs. Fryer, Schenck, Lanphear, Hill, and J. M. Carpenter.

The committee on the resolutions offered by Dr. Bell submitted the following report:

We, the committee appointed to report on the resolutions offered by Dr. Bell, beg leave to report that, though we agree with the sentiments expressed in the resolutions, we consider them rather too sweeping in their character to recommend their adoption by the Society, but would recommend that our delegates to the American Medical Association be instructed to bring the matter before that body.

[Signed] N. T. P. ROBERTSON.
B. F. HEPLER.
JOHN GRASS.

The report was adopted by the Society.

The following amendment to article IV of the Constitution was then offered by Dr. M. F. Leary, and, under the rules, laid over for one year:

After the words "annual meeting, which shall be at," introduce the words "the State capital," and omit the words "such time and place, from year to year, as the Society may elect." Article IV will then read: "One regular meeting shall be held each year, to be designated the 'annual meeting,' which shall be held at the State capital. Special meetings may be held as provided by the By-Laws."

Dr. Cochrane moved that a sum, not to exceed $200, be appropriated for the expense of the committee in presenting the bill to the Legislature. Carried.

It was voted that the committee be empowered to fill vacancies in their members as they may occur. Carried.

Dr. Grass read a report on Sanitation, which was referred to the Committee on Publication.

Dr. Carpenter read a report of a case of Compound Fracture of the Leg, which was received and referred, after the subject had been ably discussed by Drs. McCully, Cazier, Schenck, and Fryer.

The report of the Nominating Committee was called for, under a suspension of the rules. The report of the committee was read by Dr. Grass, and adopted by the Society, as follows:

OFFICERS FOR THE ENSUING YEAR.

President—G. W. Haldeman, M. D., Paola.
First Vice-President—W. S. Mendenhall, M. D., Winfield.
Second Vice-President—G. R. Baldwin, M. D., Fort Scott.
Secretary—F. D. Morse, M. D., Lawrence.
Assistant Secretary—J. B. Hibben, M. D., Topeka.
Treasurer—W. W. Cochrane, M. D., Atchison.
Board of Censors—Drs. T. Sinks, G. Boyd, C. H. Guibor, F. F. Dickman, M. B. Ward.

REGULAR COMMITTEES.

Practice of Medicine—Drs. Schenck, W. B. Carpenter, T. J. Miller.
Surgery—Drs. J. M. Carpenter, McCully, Robinson.
Materia Medica—Drs. Fulton, Furley, Hannawalt.
Obstetrics—Drs. W. S. Mendenall, Mottram, G. R. Baldwin.
Physiology—Drs. Jacobs, A. Leigh, Buck.

SPECIAL COMMITTEES.

Diseases of Eye—Dr. B. E. Fryer.
Therapeutics—M. Cazier.
Diphtheria—Dr. L. A. Hall.
Gynecology—Dr. B. F. Masterman.
Traumatic Aneurism—Dr. J. Robinson.
Nervous Diseases—Dr. Schenck
Surgical Appliances—Dr. L. J. Lyman.
Diseases of Children—Dr. D. K. Longshore.
Public Address—Dr. Lane, of Leavenworth.
Committee on Public Hygiene—Drs. Schenck, Stormont, Fuller, Mitchell, Leary.
Committee on Ethics (three years)—Drs. Coons, Fryer, Grass.
Committee on Ethics (two years)—Drs. Schenck, Dickman, Buck.
Committee on Ethics (one year)—Drs. Ward, Boyd, Lanphear.
Delegates to American Medical Association—Drs. Stormont, Hepler, W. S. Mendenhall, Mottram, Fryer, Sinks, J. M. Carpenter, D. C. Jones, Ross, Furley, Cunkle, Neely, Lanphear, Hill, Ward, Guibor, Smolt, Baldwin, Jacobs, Buck, Hannawalt, R. G. Mendenhall, Adams, Longshore.

Next meeting to be held at Topeka, third Tuesday in May, at 3 P. M.

The Society then adjourned, to meet at 7:30 P. M.

EVENING SESSION.

The Society was called to order at 7:30 P.M.; Dr. B. E. Fryer in the chair.

The following resolutions were offered by Dr. Leary, and adopted:

Whereas, The Public Health Association, at its late session at Savannah, petitioned Congress for an act and an appropriation of money for the purpose of securing an official registration of births and deaths throughout the United States, and recognizing the great benefits to the country to be obtained by such registration:

Resolved, That we fully indorse this measure, and urge our representatives in Congress to use their influence in securing action on the matter. And

Whereas, The operations of the National Board of Health, since its organization, have been productive of great good to the public health, not only in the Southern States but also to the country at large, and believing that the field of usefulness of the Board will be materially extended, and its efficiency increased thereby:

Resolved, That we recommend that the membership of the Board be augmented, so that it contains one representative from each State.

Dr. Cochrane read the report on Obstetrics, which was received, and referred to the Committee on Publication, after being freely discussed by Drs. Lane, Haldeman, Leigh, J. M. Carpenter, and Bell.

Dr. Hannawalt offered a resolution, which was referred to the Committee on Ethics, to report at the next meeting.

Dr. Mottram presented a pathological specimen, and read a report of a case of Sarcoma of the Testicle. Received, and referred to Committee on Publication.

Dr. Fryer offered the following resolution, which was adopted:

Resolved, That the thanks of this Society are due Dr. Haldeman for the able, impartial and agreeable manner which he has shown in presiding over the meeting of this session.

Dr. McCully offered the following, which was adopted:

Resolved, That we tender our thanks to the newspapers of Emporia, for their full and accurate report of our proceedings.

It was voted that the Secretary be instructed to present a copy of our proceedings to such of the principal newspapers of the State as he may deem best.

A bill of twenty-five dollars for the lighting and care of the hall was allowed, and ordered paid, and the thanks of the Society tendered to Col. Whitley for the use of the Opera House.

The Committee on Publication was announced: Drs. Lanphear, Stormont, and Morse.

Dr. Schenck offered the following resolutions, which were adopted;

Whereas, The Code of Ethics of the American Medical Association clearly defines the status of secret remedies and their vendors, viz.: "It is equally derogatory to professional character to dispense a secret nostrum, whether it be the composition or exclusive property of himself or others. For if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberty; and if mystery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice," (Art. I, Sec. IV); and

Whereas, We believe it the function of all religions, whether of Confucius or

Buddha, of Mahomet or of Christ, to bind back the soul to truth, to righteousness, and to beneficence; and

Whereas, Many of the religious periodicals of the day flood their columns with the unblushing falsehoods of the vendors of secret remedies and patent medicines; and

Whereas, We believe such advertisements do injustice to pure Christianity, and are calculated to create in the minds of medical men a disgust for religion: therefore, be it

Resolved, That as guardians of the life and health of the people, and worshippers of the God of truth, we condemn the practice by the religious periodicals of sending, commingled with the truth and beauty of Christianity, the base and unblushing falsehoods of charlatism.

The members of the Society residing at Topeka were appointed Committee of Arrangement for the next meeting.

The papers of Drs. Haldeman and Schenck, and the report of Committee on Necrology, were referred to the Committee on Publication without reading.

The thanks of the Society were tendered to the hotels and railroads for commuting rates to members, to the firms who have made exhibits during the session, and the Society then adjourned, to meet at Topeka the third Tuesday in May, 1883, at 3 P.M.

F. D. MORSE, M. D., *Secretary*.

OPENING ADDRESS.

BY GEO. W. HALDEMAN, M.D., VICE-PRESIDENT, PAOLA, KANSAS.

Gentlemen, Brethren of the Kansas Medical Society: It has unexpectedly become my pleasing duty to welcome you to this, the twenty-third annual meeting of our association. The utterances usually indulged in on occasions of this kind afford little opportunity for original observations, and indeed are regarded by many as mere platitudes, having little or no meaning. I do not envy, however, either the head or the heart of the man who can look upon a scene like this with indifference; for to one who really loves his profession, what sight can be more gratifying than that which is here presented, of men, at a sacrifice of home comforts and business interests it may be, coming from the remotest quarters of our great commonwealth, for mutual improvement in matters pertaining to the advancement of medical science, for the purpose of renewing acquaintances and cementing friendships already formed, and for the purpose of receiving into the fold many yet outside the ark of safety who may be desirous of joining our ranks and of becoming co-workers with us.

The cause which has led to the necessity of my assuming the duties

of the chair is to me, as it must be to you, a source of sincere regret. Being advised a few days ago that it would be impossible for Dr. Stuart to be here, the duty of presiding over your deliberations, with no time for preparation for the work, devolves on me. I take the place with distrust of my ability to render satisfaction, on account of my lack of familiarity with parliamentary usages. But I make the venture, conscious that I shall have your coöperation as well as forbearance. To preside over a body of professional men whose aim is the progress of science, the amelioration of human suffering, the promotion of public health and the cultivation of social intercourse, is inspiring. Medical art and science as applicable to man, have originated out of the necessities of the race, and belong to all classes alike. The cultivation of medicine is a common duty, as it partakes of a common interest. The temple of science is reared by all, and all are entitled to the rich blessings constantly issuing from its portals.

It only remains for me to make a few suggestions which I think are of sufficient importance to demand your attention, with the hope that you will institute such measures and take such action as will lead to practical results, beneficial alike to the people and to the medical profession.

And first, I would suggest that steps be taken to again obtain the passage of a law by the Legislature of our State which shall have for its object the regulation of the *practice of medicine, surgery, and obstetrics.* As you are aware, such a law was passed a few years ago, but was declared by our Supreme Court to be unconstitutional, in that it attempted to confer corporate rights by special legislation. That the law was defective in other respects, there can be no question; but lame as it was, the good to be derived from it would soon have become manifest in excluding men from the State devoid of character or qualification for the practice of medicine. There is encouragement for believing that the next Legislature may be induced to consider the question favorably, if brought to its attention early and pressed with earnestness. After the decision of the court declaring the old law invalid, an effort was made, as I understand, to effect the passage of a law divested of the objectionable features named by the said court, by our last Legislature, which passed the Senate, but too late to be pushed through the lower house. The Legislature of Illinois passed a law some years ago making it unlawful for any person to practice medicine or surgery in any of their departments who has not graduated at some medical college, or who cannot produce a certificate of qualification from some State, county, city or district medical society composed of not less than six members, and who cannot produce a certificate of good character from some court of record in the United States. Let us take steps to imitate Illinois and other States in this matter.

Second, I suggest, respectfully, the propriety of your inaugurating

a movement looking to the procurement of a law in Kansas creating a *State Board of Health*. The necessity of the step has been recognized in many of the States, and the results have been beneficial even beyond the limits of the States for whose good they were intended. Even Congress, the nation's representative, has been convinced of the need of a National Board of Health. As yet our population has been comparatively free from epidemics, especially of zymotic diseases; but as it becomes more dense in city and country, the usefulness of preventive medicine will become more and more apparent. I take the liberty of recalling the language of my friend Dr. Schenck, made on an occasion similar to this, to impress the importance of attention to this subject. He said: "We believe the life and development of the men and women of the State are as important to its interests and to humanity as the life and development of its hogs and potatoes, and we should ask, we should demand, that the State of Kansas shall manifest an equal interest in them, and that its legislators shall enact a law organizing a State Board of Health, giving it full power to protect the interests under its care. To this end let us labor faithfully and earnestly, and of the two hundred thousand annually slain in the United States by preventable disease, rescue whom we may by *State Preventive Medicine*."

Third, as closely allied to the forgoing I call your attention to the question of *Compulsory Vaccination*. Small-pox has been fearfully prevalent all around us the past year, and it behooves us to be on the alert, lest it invade our borders and find among its victims a large percentage of our people without the prophylaxis afforded by vaccination. We speak of war filling the land with mourning; but just think of it! here is an *entirely preventable disease*, which, without any compensating advantage, is nearly if not quite as fatal to human life as the wars which have desolated this and other lands. Compulsory action must be had if this disgusting disease is ever to stop its ravages. Strict laws, with heavy penalties attached for delinquencies, ought to be passed. It is hoped you will think favorably of the matter, and take such action as will eventuate in the needed legislation.

Fourth, I think the subject of *Patented Medical Compounds*, or *Quack Medicines* as they are usually denominated, is one of sufficient importance to call for some attention from this Society. We are all agreed, or ought to be, that the ethical principle which induces us to oppose the manufacture and sale of quack medicines, or in other words, secret nostrums, is a sound one, which looks more to the good of the people than to professional benefit, and is based on a true appreciation of the duties of man to man. But however true this may be, the evils resulting from these vile compounds and nasty slops will never be eradicated, if we, like Giant Pagan, quietly sit with folded hands in our caves, and never even utter a protest. We must work for some measure by which

this unrighteous traffic may be checkmated, and these audacious traders in human misery be foiled. Two plans for the eradication of this evil have been suggested, One is that these secret nostrums should all be patented. Not one in a hundred of these "proprietary" preparations is really patented, although they are usually styled "patent medicines." If they were, an entry giving their ingredients would be on the books in the patent office at Washington. This procedure would destroy their *secresy*, which is about their only charm. Let a stringent law be enacted by our Legislature forever prohibiting the importation or use, as a beverage or otherwise, by the people of the State, of any nostrum the ingredients of which are unknown or cannot be ascertained by reference to the records at Washington. I opine much of the boasting, the certificates of cures and the publication of mysterious medicinal power would come to a sudden end. Another method, if adopted, it is thought by some would be equally efficacious; and that is, to have each popular secret preparation analyzed, and its constituents published far and wide. It seems to me one or the other of these plans should be adopted and advocated by the profession here and elsewhere, until real results are accomplished.

There are other matters of interest not herein referred to that should perhaps receive your attention at this meeting of our Society; but as I am satisfied your comprehension of the needs of the hour will supply the deficiencies of this hastily prepared paper, I will close my remarks, hoping that our deliberations may be characterized by harmony and good feeling, strengthening the bond of professional brotherhood, and exalting the standard of legitimate medicine. And

"Let this day's good resolves prove fruitful seeds,
Through life to blossom into goodly deeds;
With open hands and good advice still bless
The poor, afflicted, all who know distress;
And be like unfailing springs that o'erflow
In streams to carry life where'er they go."

RECENT ADVANCES IN OPHTHALMOLOGY.

BY DR. B. E. FRYER, U.S.A., FORT LEAVENWORTH, KANSAS.

While it may not be possible to record for the past year any marked additions to our means of diagnosing diseases of the eye, or many new methods of treatment, I shall be able, it is hoped, to give in this paper much that is of interest in relating to you in a synoptical way an account of the more important work which has been done in ophthalmology since our last meeting. I will add that most if not all of this

work has been in the past year, and was the case at my last report to this Society, that of testing, correcting, rearranging and properly rating results obtained by work in previous discoveries.

In August last the great International Medical Congress met in London, and the report by my friend Dr. Knapp of the work done in the ophthalmological section is very full and interesting. This report is published in Knapp's Archives of Ophthalmology, vol. X, No. 3. A large number of papers were read by prominent oculists from nearly every part of the civilized world. Active discussions were had, with a full and free exchange of thought on matters ophthalmological. The section was presided over by Wm. Bowman, who is so well known in ophthalmology. Abstracts of papers to be read were printed in English, German and French, and distributed, and a very excellent rule was followed, viz.: "to insure accuracy and facilitate publication of the proceedings, speakers are requested, before the conclusion of each meeting, to hand to the secretaries of the section, in writing, the substance of their speeches. Unless this rule be carried out the discussion cannot appear in the Transactions."

Among the first of the official subjects for discussion, was "the antiseptic method in ocular surgery," and this was opened by Professor Horner, of Zürich. He took the ground that "the experience of oculists and surgeons shows that small differences in the size and shape of the wound, and in the patient's age and constitution, are less important than in the mode of dressing. An exact analysis of all the cases of primary suppuration after extraction of cataract leaves no doubt that it depends on infection. On this account we ought to be able to get better results by antiseptics. For this purpose there is required:

"1. The prophylactic disinfection of the patient, instruments, sponges, operator, assistants, etc.; special attention has to be paid to the region of the operation (asepsis of the lids, conjunctiva and lachrymal sac), as well as the operating room, if the presence of pathogenic bacteria is suspected (large hospitals, erysipelas, diphtheria, etc.).

"2. The antiseptic cleansing of the conjunctival sac after the operation.

"3. Antiseptic treatment in the event of commencing suppuration; disinfection of the conjunctival sac by irrigation; disinfection of the incision and of the anterior chamber; reopening of the wound so as to accomplish asepsis; antiseptic bandage."

Horner has abandoned the spray, but uses a five-per-cent. solution of carbolic acid for cleansing; applies the wet salicylic bandage (five-per-cent. salicylic wadding) which can be easily removed, and covers the whole region of the eye. When irritation or suppuration is present he pours a two-per-cent. solution of carbolic acid in the conjunctival sac, opens the wound and removes the products of inflammation from the anterior chamber. Aside from the antiseptic method, Horner dwells upon the importance of the most delicate execution of the operation in all its details.

Dr. Redmond, of Turin, in reference to Lister's dressing in cataract extraction, agrees that "unless the method is perfectly carried out, the

dressings extended far beyond the orbital region very accurately, we often have, first, striped keratitis; second, whitish infiltration of some parts of the flap; third, a grayish felt-like fibrillary mass forming in the wound and spreading to the pupil." In three hundred and sixty extractions since January 1, 1880, the author has had primary sloughing of the cornea in seven patients, of whom four had off the bandage themselves before the third day. He speaks at length on the reaction of the conjunctiva.

DeWecker, of Paris, advocated the antiseptic method. He uses spray and antiseptic dressing in cataract extraction. His results in the last two years have been varying. In the first year he had only one suppuration of two hundred and fifty cataract extractions; in the last year, six among one hundred and fifty extractions.

Pagenstecker, of Weisbaden, expresses himself a warm advocate of the full antiseptic procedure; he no longer fears the suppuration from prolapse of the vitreous, which was so frequent heretofore in extracting a lens in its capsule.

The chairman, Dr. Bowman, in closing the discussion, said that "whatever opinion anybody might hold at present, certain it was that the subject of antiseptics would for years occupy the minds of all ophthalmic surgeons. He would add that Lister thinks the oil of eucalyptus particularly adapted to the conjunctiva, both as an innocuous and sufficient antiseptic in ophthalmic practice.

The second subject for discussion at the ophthalmic section of the congress was, Sympathetic Ophthalmia, and the mode of its transmission. As this subject is one in which every practitioner of medicine and surgery here is very directly interested, I will not only quote the views held by the participants in the discussion of this subject, but will also in this paper give some important results published since the meeting of the congress. I will also give some of my own views resulting from experience in the disease. And if it shall be thought before I conclude that I have given it too much space, I would urge as an excuse my belief that few general practitioners understand the importance or appreciate the necessity of a thorough knowledge, not only of the pathology of sympathetic ophthalmia, but also that they neither realize the importance of having clear ideas of its prevention, nor of the proper methods of procedure when this terrible disease has begun.

Before relating the discussion above referred to on sympathetic ophthalmia, it may be well to recall that the term sympathetic ophthalmia includes several ocular lesions which occur in the hitherto sound eye, which lesions are generally produced by injury, usually (sometimes also by disease) in the fellow eye. The type lesion in sympathetic ophthalmia is an irido-cyclitis, but we may have also sympathetic iritis, sympathetic choriditis, or sympathetic cyclitis, and any or all of these forms combined. We may also have a sympathetic neuro-retinitis, and

also occasionally sympathetic corneal and scleral inflammations. Of the iritic and iridocyclitic forms, we may have the simpler and much less distinctive one with serous choroiditis only, or we may have the more thoroughly destructive form in which the exudation is a plastic one. Sympathetic glaucoma has been reported, but the evidence against its being a pure case, and dependent upon a sympathetic cause, is open to doubt.

At the congress I have mentioned, Professor N. Snellen, of Utrecht, opened the discussion on "the nature of sympathetic ophthalmia, and the mode of transmission," and the conclusion he arrived at is: first, "The explanation of sympathetic ophthalmia as a reflex action of the ciliary nerves is insufficient. Second, as a clue to further research, the hypothesis that sympathetic ophthalmia is to be regarded as a metastatic specific inflammation in which special parasitical inflammatory elements are conveyed over to the choroid of the sympathizing eye by the dilated lymph paths."

Dr. Bailey, of London, then read a paper on the pathology of sympathetic ophthalmia. His conclusions I summarize: The uveatis, which is so strikingly manifest in the well-marked and severe cases of this disease, presents certain definite pathological characters by which it can be distinguished histologically from other forms of inflammation. These characters, though they differ a little at different parts of the uveal tract, are nearly always recognized in both eyes. Though in the sympathizing eye the disease as is well known often begins as an iritis serosa, with accompanying keratitis punctata, yet here also the peculiar characteristics of sympathetic ophthalmia usually become visible at a later stage. The disease is not transmitted from one eye to the other by the passage of structural changes along either optic or ciliary nerves.

Dr. Poncet's (of Cluny) paper followed: the title of it is, "How can sympathetic ophthalmia be produced after enervation?" His belief is: "In an eye enucleated after enervation (division of the optic nerves) for sympathetic mischief, examination showed changes of unusual intensity due to optic ciliary neurotomy." "The intra-ocular nerve-bundles showed fatty degeneration. The scar tissue produced formed a fibrous mass, very dense, and containing many of the peripheral ends of the ciliary nerves. These nerves were affected by interstitial sclerosis, with irritative compressions of the nerve fibers. The permanence of the sympathetic pains must be attributed to this lesion. Terminal neuritis of the ciliary nerves perhaps exist also in those cases where enucleation does not prevent sympathetic mischief."

Dr. Mooren, of Düsseldorf, made some remarks on sympathetic ophthalmia. Twenty-one years ago he described a case of inflammation of the optic nerves, produced by bruising with a pair of scissors; iritis was followed by sympathetic ophthalmia.

Dr. Coleman enucleated an eye, and three days later sympathetic

neuritis optica followed in the other and previously healthy eye. He cites other similar cases, then quoted Dr. A. Alt, who of one hundred and thirteen eyes removed for causing sympathy, found on microscopic examination seventy-five affected with inflammatory changes in the optic nerve, whereas the ciliary nerves were healthy.

Professor Grünhagen, of Königsberg, spoke of the experiments of Gessner. Cauterization of the cornea was followed by the appearance of pus and fibrin in the anterior chamber of the same eye, and by the appearance of fibrin and white blood corpuscles in the anterior chamber of the other. This was caused by reflex irritation. He used for his experiments, rabbits and cats, which were first curarized.

Drs. Snellen and Leber tried to produce sympathetic ophthalmia experimentally, but never with even a trace of success.

Dr. Samelsohn, of Cologne, thinks it possible that the sympathetic process travels from the choroid along the vessels which perforate the sclerotic, and creeps on through Tenon's capsule and the supravaginal space.

Professor Pfluger, of Berne, has seen sympathetic ophthalmia follow neurotomy.

Dr. Boucheron stated that the cornea may retain its sensibility when all the ciliary nerves are cut; this is owing to recurrent fibers from the supra and infra-orbital nerves.

Ranvier found the stumps of several nerves inflamed.

Professor Panas, of Paris, related two unsuccessful cases of enucleation; in the one, a child, death from meningitis, in the other, suppuration of the eye ensued.

Several of the ophthalmologists took part in the discussion, manifesting a great interest in it, showing that the disease is second to none in importance. The discussion was closed by Dr. Snellen, who stated that the sympathetic process was transmitted, it is alleged, in all imaginable ways: a neurosis by reflex action, a real inflammation propagated through the optic nerves by the sympathetics; the blood vessels, the lymph spaces, etc.

Of rare cases of sympathetic ophthalmia, I mention two of sympathetic neuro-relinitis, one following trauma, and the other symblepharon, reported by Webster, in the New York *Medical Record*, of March, 1881.

Dr. E. S. Peck, in the same journal, reports a case of sympathetic ophthalmia, also from symblepharon.

In regard to the rarity of sympathetic neuro-retinitis, it should be observed, as Mauthner in his monograph shows, that the probability is that many cases of this form of the disease include a retinal lesion more frequently than is believed, but the optic media being either blocked by exudation or rendered turbid, it has been impossible during life to determine whether this lesion exists or not.

Dr. W. C. Ayres, in Knapp's Archives, vol. X, No. 3, contributes an admirable paper on the pathology of sympathetic ophthalmia. In this paper he gives the result of the microscopic examination of eight eyes enucleated for sympathetic trouble. In some of the eyes the optic nerve fibers showed pathological changes; the ciliary nerves in all these enucleated eyes were more or less pathological, and in many of them the changes were very marked and peculiar. In summarizing, Dr. Ayres says: "In conclusion, there seem to be at least two ways by which sympathy can be transmitted, or at least two ways in which it can demonstrate itself: one as optic neuritis, the other as cyclitis; or they may exist simultaneously. In some of the eyes which I have examined the retina was detached, and completely degenerated to a string of connective tissue, running from the papilla to the posterior capsule of the lens, and there does not seem to have been any sympathy, until a time at which such a retina and optic nerve had certainly become inert, as far as any property of nervous transmission is concerned. In these particular eyes I could see changes in the ciliary nerves which were striking. Chloride of palladium seems to be necessary in the examination of eyes which have hardened, as the gold staining does not work satisfactorily in them, a fact long known to histologists. The nerves were pathological, and I think that the question is certainly one which would warrant the further attention of the most experienced pathologists.

"Those eyes which transmit sympathy within the first fifteen or twenty days may cause it to make its appearance first in the papilla of the sympathetic eye, whereas the others which cause sympathy through the ciliary nerves may produce it later."

But the most important practical addition to our knowledge of sympathetic ophthalmia that has been had for some time, is the monograph on the subject, by Mauthner, of Vienna, which has been admirably translated by Drs. Warren Webster, U. S. Army, and J. A. Spaulding, of Portland, Maine. The author's desire is evidently that of popularizing among practitioners of general medicine the specialty to which he belongs; and while he has desired to make his monograph a work extremely useful to the general practitioner, it is believed that it will only in part accomplish this, for, as he says, he has occasionally been obliged to overstep the bounds of general description,and to adopt for a time, the necessary details of the oculist. It is, however, a work which all general practitioners might well read and study thoroughly.

I believe that it may be of advantage here to call attention to some of the more important portions of this monograph, and to give such summaries as may be of use as guides in preventing and in treating the disease in question for the benefit of those whose general practice may not allow of their perusing the work.

In referring to the pathology of sympathetic ophthalmia, Mauthner

gives the following list of sympathetic-producing lesions: Neuralgia of the ciliary nerve; irritation of the retina and of the optic nerves; functional disorder of the retina; inflammation of the uveal tract, with or without participation on the part of the ciliary body, so that there may be both a sympathetic choroiditis, without coëxisting cyclitis; inflammation of the retina. alone or in conjunction with inflammation of the choroid; inflammation of the optic nerve; glaucoma—disease of the vitreous and of the lens. Mauthner is inclined to consider sympathetic irritation as a preliminary stage of sympathetic ophthalmia, though, as he says, some of its simplest forms may persist for a long time without involving the organ in substantial lesion. It is evidently a matter of safety to consider the sympathetic irritation as a preliminary stage of the disease, for, as he says, "It would, however, be incurring a very bold risk to base our therapeutical measures on the assumption that such a state of irritation never becomes transmuted into one of inflammation."

Mauthner describes very admirably the pathology of each form of sympathetic ophthalmia, and measures very accurately the destructive force of each—the knowledge of which has a most direct bearing upon the therapeutical measures to be adopted. He points out clearly the importance of determining between plastic and the serous forms of sympathetic iritis, the latter being the least dangerous of all the sympathetic inflammations which attack the ureal tract. He titles, as do others, the most destructive form of sympathetic ophthalmia, viz.: Sympathetic irido-cyclitis and sympathetic irido-cyclo-chorriditis, as malignant. Very properly he denies that the simpler form—the sympathetic serous—is a pioneer of the iritis maligna, and insists that where the more dangerous form has manifested itself after enucleation of the eye, causing the disease, that the operation itself has been in all probability the cause of the new sympathetic process.

Mauthner, in considering sympathetic affections of the optic nerve, in reference to atrophy, says "he cannot wholly arrive at the belief that we may occasionally discover the ophthalmoscopic picture of simple atrophy which is of sympathetic origin."

Mauthner quotes the case of Schmidt (1874), who discovered opacities in the vitreous, which Schmidt ascribed to a sympathetic source, without a trace of accompanying iritis or other inflammatory process in the ureal tract.

Briere's case (1875) of sympathetic cataract is mentioned, with the opinion that the sympathetic cause is open to question. But Kruckrow (in 1880) has described two cases of sympathetic cataract.

In rating the severest forms, Mauthner properly places first the sympathetic inflammations of the iris and ciliary body, the choroid, and also those of the retina and optic nerve.

Mauthner, in considering the pathology of sympathetic ophthalmia,

states what must have suggested itself to every pathologist or practitioner, "that a disease of any part of the body should be the cause of disease in a sympathetical member must in any event seem extraordinary. Human pathology to this time has revealed but few phenomena of this nature."

Mauthner refers to Norris's paper on sympathetic ophthalmia in reference to analogous occurrences in other portions of the body, viz., those observed by Mitchell, Moorhouse, and Keen, where a case of gunshot wound of one thigh, with complete anæsthesia, was observed in the corresponding side of the other thigh. I can scarcely consider this as a parallel condition, however.

Mauthner goes over the whole ground very fully and carefully as to the transmitting channels from the injured eye to the sound one, and he does not believe, as many authorities do, that the transmitting influence is carried by the ciliary nerves only, or by the optic nerve only, but that the nerve fibers of both these sets of nerves may and do pass the sympathetic influence from one eye to the other. As he very correctly states, it would be scarcely logical to give the blame to the ciliary nerves where a sympathetic optic neuritis only existed, or to accuse the optic nerve of carrying the sympathetic process in a sympathetic iridocyclitis. He believes, as I have stated, and as do others, that both the ciliary and optic nerves are the channels.

In reference to a transmission by vessels, he refers to the probability of it by alterations which occur in the choroidal vessels of one eye being transmitted to the chief arterial trunk, from thence into the internal carotid, and so to the circle of Willis, and thence to the fellow ophthalmic artery and to the fellow choroid. But he looks upon this mode as indefinite and quite unsettled.

As a summary of the views of the transmission of the sympathetic process, I quote the following: "We have on the whole no right at all to ask whether the sympathetic affection is transmitted along the optic nerves or along the ciliary nerves; nor can we ask whether the transmission takes place along the one path more frequently than along the other; for the transmission may be affected in both ways. But by this, however, we are not to understand that one and the same morbid process can be transmitted, now along the one path, and now along the other. On the contrary, irritation and inflammatory conditions are transmitted from the optic nerves and retina along the optic nerves, while those inflammatory processes which are chiefly observed in that portion of the eye which is nourished by the ciliary nerves, especially in the uveal tract, are transmitted along the ciliary nerves. There is not the least doubt that the sympathetic inflammation may frequently be transmitted along both paths at once, or at short intervals, so that many symptoms in sympathetic affections of the uveal tract (among others the functional disturbance) are not to be attributed to the in-

flammation of the uveal tract, but to a simultaneous inflammation of the retina and optic nerve."

In reference to the time how soon the sympathetic process may appear, Mauthner states that he knows of no case where sympathetic ophthalmia occurred sooner than four weeks after the injury; and he denies that the time is ever after a few days.

As is well known by oculists, as long a period as twenty-six years may elapse before the disease appears. I have lately seen a case in which the process was just commencing in an eye destroyed thirty-three years ago, and I would also mention one which I saw last winter of sympathetic chor-irido-retinitis, with opacities in the vitreous appearing, after a lapse of thirteen years from the destruction of the irritating eye.

In considering the operation of enucleation as a preventive measure, Mauthner summarizes with the following strong and clear expression: "My creed in the question of enucleation runs briefly thus: It may be performed as a preventive; it must be performed in the stage of irritation; it cannot be performed in iritis serosa and iritis plastica; it can be performed in irido-cyclitis plastica, provided the eye causing the sympathy is totally blind, but not in a state of violent irritation."

With regard to these words of Mauthner, I would say that they furnish a safe guide upon which reliance can be placed in deciding as to the enucleation of an eye which may provoke, or has already provoked, a sympathetic condition in its fellow. In reference to one portion only of Mauthner's creed do I think any doubt should exist, and that is as to whether enucleation of a destroyed eye should be done when iritis plastica exists in its fellow. Mauthner believes that in this condition the sympathetic process is increased by enucleating the irritating eye; that this is not always so, I will quote a case of my own. A man was brought to me on the 4th of November last in whom the left eye had been destroyed six years previously by gonorrhœal ophthalmia, and the eye was shrunken to half its size, with not a particle of vision. It was painful on pressure over the region of the ciliary body, but there was no spontaneous pain in the left eye; in the right eye there was well-marked sympathetic plastic iritis, with a quite firm plug of lymph closing the pupil, and evidently lymph was exuded behind the iris upon the lens. V was reduced so that fingers only could be counted at one foot. I enucleated the destroyed eye. The day after the operation the vision had increased so that fingers could be counted at three feet, and this improvement went on with one or two slight relapses, until now the man can see to get about his farm alone and attend to ordinary work thereon. In this case the enucleation seemed the only alternative, but had there been even a very slight vision in the left eye I should not have operated; for obviously the chances for sight continuing good in a damaged eye is better than that of the vision in an eye affected by sympathetic iritis plastica.

Mauthner is unhesitating in his recommendation of preventive enucleation being done early, and says very properly, that "the fact that the eye which is liable to cause a sympathetic disease at some future time still possesses a certain amount of vision, never contra-indicates the performance of preventive enucleation. Those who resort to preventive enucleation on principle, or who regard it as a necessary duty to advise the enucleation of an eye in any special cases, should never let themselves be led astray by the circumstance that the injured or irritated organ still possesses some remnant of vision. Of course, however, this refers only to the condition before the sympathizing process is started." He says again: "When the other eye is in a state of irritation, an eye which still possesses vision must be immediately sacrificed; success is too certain and too much is at stake for the oculist to hesitate. If in such a case he meets the rare misfortune of seeing the irritation become developed into inflammation despite the enucleation, he can say with confidence, 'All is lost, but not my peace of mind.'" The surgeon cannot act differently, and such a tragic accident as just suggested is so rare, that the vast majority of operators pass through life without meeting with such a lamentable experience. It may be well to add that the faculty of the University of Strasburg announced for a prize essay for 1881–2, for a subject the critical investigation of the sympathetic affections of the eye, showing the importance of the whole subject.

In reference to the operation of optico-ciliary neurotomy or neurectomy as a substitute for enucleation, I will state that it does not gain many supporters, operations having been published in which enucleation had to follow.

Among the advances in surgical procedures may be mentioned that of the peripheral incision of the lens capsule in cataract extractions. In a report of a hundred extractions (the seventh) by my friend Dr. Knapp, of New York, it will be seen that this method was adopted with good success. Other operators speak in favor of this method; I have lately tried it and can speak also in its favor.

In reference to the so-called cure of cataract by electricity, which a New York electrician some time ago claimed, Dr. Noyes, of New York, at the last meeting of the American Ophthalmological Society, spoke of a case of alleged cure, which case he had had an opportunity to examine prior to the electrical treatment, when he found a few striæ in the lens, showing incipient cataract. V was $\frac{20}{70}$ in one eye and $\frac{20}{200}$ in the other. Nearly two years afterwards, during which time it was claimed the case had been cured, Dr. Noyes examined the case again. He then found extreme choridal atrophy, and vision $\frac{20}{150}$ and $\frac{20}{200}$.

The operation of sclerotomy is evidently gaining many supporters as experience with it is had. A number of oculists have reported in its favor.

The operation to be employed in the various forms of glaucoma was one of the subjects discussed in the ophthalmological section of the International Medical Congress herein referred to, and De Wecker, of Paris, introduced the discussion in reference to sclerotomy for glaucoma. De Wecker said sclerotomy will be eagerly resorted to in those cases in which iridectomy is known to be dangerous, viz.: in glaucoma hæmorrhagicum and congenitale, in simple chronic glaucoma, where the visual field is contracted nearly to the point of fixation, and whenever after an iridectomy the vision has deteriorated, or when the good results of this operation after a period begin to diminish.

"Shall we say that all glaucomas not amenable to iridectomy are curable by sclerotomy? Unfortunately, no; for exceptional cases occur in which repeated sclerotomies, as well as subsequent iridectomy, are ineffectual. Experience has taught us that a glaucoma simplex which has resisted sclerotomy is not to be cured by iridectomy. We get the most striking results from iridectomy in acute glaucoma; and we can go so far as to say that the more acute the glaucoma the more successful the operation is likely to be.

"Although in acute glaucoma we obtain good results with sclerotomy, the difficulty in its execution and the absence of superiority in its remedial effects, are reasons which keep us from preferring it to an operation which even when moderately well executed, still yields excellent results.

"Another reason rendering sclerotomy less applicable is, that it is indispensable for its success that there should be a perfect contraction of the pupil under myotics, which forms the only guaranty against entanglement of the iris in the wound."

Dr. Bader, of London, stated that he had performed sclerotomy in all forms of glaucoma these four years. He thinks it superior to iridectomy. He favors and intentionally produces a prolapse of the iris and a small staphyloma under the conjunctiva; makes the incision as subconjunctivally as possible; leaves no scleral bridge undivided. The results he says are more perfect; some patients operated on in this manner were presented.

My friend Dr. Knapp states that he had performed sclerotomy for chronic glaucoma during the past eighteen months exclusively. The result has been encouraging—better, it seems, than iridectomy under like conditions—no case turned into malignant glaucoma. He had no accidents, but in a case of hemorrhagic glaucoma, internal suppuration and panophthalmitis followed a correct operation. The other eye affected with chronic glaucoma without hemorrhages was operated on in the same way and at the same time, making the kindest recovery. Dr. Knapp thinks that in the former the operation was followed by intra-ocular hemorrhage, which exceptionally occurs after extractions, and always destroys the eyeball.

Dr. Landesburg, of Philadelphia, in the *Medical and Surgical Reporter* of February 26, 1881, records a case of acute glaucoma in a child of eight years, cured by sclerotomy, with an additional account of nine sclerotomies performed for glaucoma in adults.

"As to the outcome of his experience, Landersberg arrived at the conclusion that the operation of sclerotomy should supplant iridectomy in (1) absolute glaucoma, (2) secondary glaucoma and glaucoma-like conditions of the eye, and in cases of glaucoma where iridectomy has already been tried but the process has returned."

I have done the operation since our last meeting, and in each case the result was good.

Gowers, in the *British Medical Journal*, vol. XXI, page 796, describes two cases of optic neuritis; in one case the disease was cured rapidly by the use of iron. Gowers states that he has never seen such a rapid development or disappearance from cerebral causes. "Absolute rest of both eyes and body is necessary to insure recovery."

Samelsohn, at the meeting of the Ophthalmological Society at Heidelberg, in December last, reported a case of embolism of one branch of the central artery of the retina. There was of course defect in the visual field supplied by the plugged vessel, but the defect disappeared after a time, as was also the result in a case of total embolism of the central artery. Samelsohn explains this restoration of vision by a cilio-retinal anastomosis, which in the first case he discovered with the ophthalmoscope.

In the *British Medical Journal* for 1881, Walters, of Manchester, reported a case of embolism of the central retinal artery occurring in phlegmasia dolens. There was anemia retina, the vessels being scarcely discernible; the optic disc white, and the macula of a reddish blue. The case resulted in a total retinal detachment.

Dr. Little, of Philadelphia, read a paper on glaucoma, at the last American Ophthalmological Society meeting, in which he gives an account of four cases affecting both eyes; all the patients were under twenty years of age. Three of the cases were in one family. Hypermetropia existed in all. In one case glaucoma fulminans showed itself after atropine.

Schenkl, in the Prague *Medical Wochenschrift*, vol. XII, page 413, quotes four cases of glaucoma in a mother, and three children almost at the same age.

Of ocular symptoms in ataxia, Hughlings Jackson states that in six of nineteen cases, the first symptoms were diplopia and white atrophy in one case.

Haussman has practiced, with success as a preventive of ophthalmia neonatorum, frequent use of the injection into the vagina of the parturient woman a two-per-cent. solution of carbolic acid, before confinement, and the cleansing of the eyes of the infant immediately after its

birth, with pieces of soft lint moistened with a one-per-cent. solution of carbolic acid. The practice of the washing of the vagina with the solution of carbolic acid as a preventive of ophthalmia neonatorum, I have taught and urged for several years.

Ohlhausen has also used the carbolic-acid solution with the same object.

Abegg urges the use, as a vaginal injection with the same object, of a two-per-cent. solution of nitrate of silver, and washing the child's eyes with water only.

Hirschberg, at the meeting of the Ophthalmological Society at Heidelberg, in September last, spoke of a case of acute and transient one-sided neuro-retinitis, and double-sided retinal hemorrhage after vomiting. One optic nerve became atrophic, the other normal. Three years after, the patient died, after repeated hæmatemesis and ulcers of the stomach. Old blood was found in the intervaginal space of the optic nerve.

Several cases of quinia amaurosis were reported by oculists during the year, and Knapp made some remarks on this condition at the meeting at Heidelberg above referred to.

That there have been authentic cases of amaurosis from quinia, there can be no doubt; but after considering many of the cases reported at different times, I have come to the conclusion that the production of temporary blindness (no permanent blindness ever appears from quinia) as dependent solely on quinia, but rarely occurs, several of the cases heretofore reported having had in them complications which readily might be considered as the cause of the trouble, without the need for a blame being given to quinia. Moreover, in malarious regions, such large doses of quinia are frequently given that we should doubtless hear of more cases, and ought to meet more, if quinia often produces this trouble. Still, believing that temporary amaurosis can be produced by quinia, it may be well, when having to give, especially to asthenic patients, such large doses of the drug, to insist on the patient's keeping the head low.

During the past year the use of eserine has been more general in ophthalmic medicine and surgery. In the prodromal stages of glaucoma, it sometimes seems to prevent the further development of the disease. It is useful, too, before doing sclerotomy for glaucoma, and De Wecker uses it after cataract extractions. Its effect in stimulating the healing of indolent corneal ulcers is remarkable. I have during the year had some admirable results in treating this class of corneal ulcers with eserine, not only from the hastening of cicatrization, but also from its diminishing the size of the leucoma, after healing is complete.

Duboisia, the new mydriatic, is fully recognized now as essential. It can generally substitute the use of the atropia without producing local

irritation where the latter drug may have done so. The effect of duboisia is more transient than atropia.

Dr. N. A. White, in the *Virginia Medical Monthly* of October, 1880, reported a case of intoxication from the local use of duboisia in eye trouble. Dr. White reports in the same paper the use of jaborandi and pilocarpine in cases of atrophy of the optic nerve, chronic neuro-retinitis, also hemorrhage and opacities in the vitreous, with benefit.

Dr. Dianioux, at the ophthalmic section of the last International Congress, read a paper on the treatment of detachment of the retina by injections of pilocarpine, giving sixteen cases, of which six were cured, eight improved, and two unimproved.

RECENT ADVANCEMENT IN SURGERY.—RESECTION OF INTESTINE AND STOMACH.

BY A. LEIGH, M. D., HIGHLAND, KANSAS,
Chairman of Committee on Advancement in Surgery.

RESECTION OF INTESTINE.

Within the last year some very marked advancement in operative surgery has taken place, particularly in abdominal surgery. This may be stated to be the outgrowth of the operation of ovariotomy, which, at the time of its proposal and at the first performance, the whole medical world, with few exceptions, severely condemned and characterized as inhuman, barbarous, and but little short of absolute murder.

But with the penetrating foresight and untiring energy of the few advocates of the operation, it was, from 1840 to 1845, recognized as being on a firm foundation, and hundreds of former invalids now testify as living monuments to its curative power. With such an array of successful cures, and the manner in which they were achieved, presented to the eye of the surgeon, it was not long before other diseased conditions of abdominal organs began to attract attention, and we see colotomy, enterotomy, gastrotomy, and now resection of intestine and resection of portions of the stomach and duodenum, following in their order in the grand march that abdominal surgery has made within the last twenty-five years.

Without stopping to survey the conditions and circumstances by and with which these heroic successes have been obtained, we will look about us and observe the rapid progress that has been made within the time since the last meeting of this Society.

In regard to the more prominent operative procedures that have occurred during the last year, resection of portions of intestine and resection of part of stomach and duodenum have received a large share of attention.

Resection of intestine has been performed for the removal of gangrene after strangulated hernia, rupture of the bowel in attempts at reduction in strangulation, and constricted portions from benign and malignant growths. During the last year the operation has been performed successfully for the above conditions as many as eight times. The portions removed varied from an inch or two to five or six feet in length.

The operation, as performed by Dr. Czerny, seems to promise the better results. The external incision is made, for gangrene, at the point of strangulation; for stricture, benign or malignant, the location of the disease determining the point of selection, whether as in colotomy, laparotomy, or gastrotomy.

The external incision being made, the intestine is then carefully drawn out and compressed above and below the diseased portion, which is then removed together with a wedge-shaped portion of mesentery, corresponding in length to the length of the portion of intestine removed, the mesenteric vessels secured by ligatures, if any be required, the parts disinfected, and the open ends of the intestine united by two rows of sutures.

The sutures in the first row—twelve to fifteen in number—include about the twelfth of an inch of serous and muscular coats; those of the second row—five to seven in number—are applied over, and partially including those of the first row.

The sutures in the intestine and in the mesentery—twenty to fifty or more in number—are cut short, the bowel returned into the abdominal cavity, and the wound in the abdominal wall closed by four or five deep and eight or nine superficial sutures; the wound is then dressed antiseptically.

When the small intestine is constricted from either fibrous or cicatricial tissue, the external incision is made as in gastrotomy or laparotomy, the bowel is carefully examined in its several portions, the affected portion secured, and gently withdrawn from the cavity, and if short, excised, sutured together, as above described, and returned to the abdominal cavity; the wound in the wall dressed as before.

Should the part be so long as to necessitate the removal of a considerable portion of mesentery, and the application of a number of ligatures be required, the sutures in the intestine need not encircle it entirely, leaving incomplete apposition opposite the mesentery. The two ends of the bowel should be secured to the *linea alba*, by suture, to retain them in contact with the peritoneum, at or near the inferior angle of the wound in the abdominal wall, a drainage tube inserted; the liga-

tures (if silk) and superficial sutures are to be brought out at the upper part of the wound, left in abdominal wall for drainage purposes.

The wound in abdominal wall is closed at its upper angle as before described, the lower angle dressed in such a manner as to prevent union by first intention, thereby establishing temporarily an artificial anus until firm peritoneal adhesions have been secured.

The sutures and ligatures, when silk has been used, come away in twelve to sixteen days, after which the wound in abdominal wall will close in from fifteen to twenty days, or about six weeks from the date of the operation.

In regard to the care and treatment of the patient at the time, and after the operation, some difference is observed in the management of the different operators. In the majority of the cases (6) the bowel was returned to the abdominal cavity, and wound in the wall closed. In the remainder of the cases (2) drainage tubes were inserted, and in one of which, where peritonitis was thought to be a complication, the cavity was washed out two or three times with a weak solution of boracic acid.

In one or two of the cases, warm, dry towels were introduced into the cavity to imbibe the serum that had collected, and debris that may have escaped during the operation; while had all the operators been present at each of the operations they would have probably concurred in the plan pursued by the operator in each individual case.

The patients were sustained by good nourishing diet as appropriate for such cases, and other indications met as each individual case required.

The operation has been performed mainly for gangrene, stricture of a fibrous or cicatricial character, and once for carcinomatous disease. In the carcinomatous case great fear is entertained of its return in a metastatic form.

In seven of the cases perfect recovery is stated to be the result of the operation. No inconvenience whatever has been experienced, even in a case where six and a half feet of small intestine were removed.

From the reported cases in which this operation has been performed after this manner, we arrive at the following conclusions:

First, that considerable portions of small intestine can be excised without any practical inconvenience, functional, digestive or otherwise.

Second, that in favorable cases, other measures failing to give relief, it is a justifiable operation.

Third, resection can be done, either by suturing the ends of the bowel directly together and closing the wound in the abdominal wall, or making incomplete apposition of bowel with sutures and combining with a temporary opening externally.

Fourth, that removal of fibrous and cicatricial strictures will probably be followed by complete and permanent recovery, while in carci-

nomatous disease, a sufficient number of cases have not been reported to say whether the operation will or will not be attended with any material benefit to the patient.

RESECTION OF STOMACH.

Cancerous disease of the stomach is a disease that for years past has engaged the attention of the whole medical profession.

In the long list of medicinal agents, none have escaped a trial for the benefit or relief of this painful and fatal disease, with the result of proving them utterly useless so far as possessing any curative power.

The poor, miserable patient is doomed to suffer excruciating and agonizing pain from morning till night, and from night till morning, for weeks and months, and finally, when completely exhausted and worn out, death puts an end to his suffering and affliction.

Whether or not it was amenable to operative procedures, has occupied the attention of surgeons for several years past. Numerous experiments have been performed on dogs, with a view of determining whether or not it was possible. The experiments proved satisfactory, but one thing yet remained in its way of application to man: Was the *vis vitæ* the same in man as in animals?

Recent advancement in physiology and pathology, together with the advancement made in operative surgery in the abdominal cavity, tempted the surgeon to take the bold step of trying to remove cancerous disease from the stomach by operation. M. Peau, a Parisian surgeon, was the first to perform the operation on man, which took place in 1879. The patient died on the third or fourth day after the operation.

In the latter part of 1881 Billroth performed the operation on a woman forty-three years of age, previously in good health. The manner of performing the operation as performed by Billroth, as given in his report of his case, is as follows:

In October, 1880, she suffered from vomiting, and soon all the symptoms of carcinoma of the stomach and stenosis of the pylorus. During the six weeks prior to the operation, the constant vomiting and the small amount of nourishment taken, led to excessive pallor, emaciation, small and frequent pulse, and exhaustion, so that the patient, feeling her end fast approaching, consented to the operation proposed by Billroth. The preparation for the operation consisted only in washing out the stomach with an ordinary tube.

The operation was performed in a temperature of 86° Fah., and under chloroform. An incision eight centimeters (3¼ in.) long was made over the tumor, which was readily movable under the thinned integuments. The tumor proved to be a nodulated carcinoma of the pylorus, which was in part infiltrated, and occupied more than the lower third of the stomach. The parts were carefully separated from the omentum and transverse colon, and the vessels being tied, very little blood was lost.

The tumor having been brought completely out on the integuments of the abdomen, an incision through the stomach one centimeter (½ in.) beyond the infiltrated part, first only backwards, and then through the duodenum. An oblique incision was next directed from above and inward, to below and outward, always keeping at a distance of one centimeter (½ in.) from the infiltrated part. After uniting the oblique incision only sufficiently to allow of its being adjusted to the duodenum, the tumor was completely separated from the duodenum, one centimeter from the infiltration, by means of an incision made parallel to that made in the stomach. The duodenum was adapted to the opening left. About fifty carbolized silk sutures in all, were used during the operation. After cleansing with a two-per-cent. solution of carbolic acid, and the application of a guard ligature, the parts were replaced in the cavity of the abdomen.

The operation, including chloroformization, lasted one hour and a half. The excised portion consisted of fourteen centimeters (5½ in.) of the greater curvature of the stomach, and a quill could only be passed with difficulty through the pylorus.

The form of the stomach was not essentially changed by the operation, the organ being rendered smaller. After the operation there was neither vomiting nor pain.

The patient recovered from the operation, and permanent recovery seemed almost assured.

This operation has been performed eight times, by six different operators, Billroth having operated six times.

When the operation has been determined upon, a very careful and thorough examination is to be made, in order that as perfect a knowledge as may be obtained of the size, mobieity and attachments of the tumor. The greatest amount of nourishment that the patient will admit of is to be effected, the stomach washed out thoroughly, one or two hours before the operation. The incision in the abdominal wall may be made longitudinally in the median line, a little to the right, or transversely over the site of the tumor. The cavity being opened, the tumor is sought, and if it is found to have invaded the descending portion of the duodenum, pancreas, or liver, the operation should be at once abandoned. It is with great difficulty that the operation is completed when the transverse colon or abdominal wall is invaded. Should it be determined that the operation can be completed, that is, the tumor removed, the adhesions are to be carefully broken down, the tumor, with all infiltrated glands, separated from the great and lesser omentum at a free distance from the infiltration. The vessels are to be tied before they are divided, a cloth or some suitable material passed under the stomach during the time of its incision. The tumor being now removed, there will probably be two openings of unequal size to be coapted, the one in the stomach being the larger. The orifice in the

stomach may be contracted by the passage of sutures or the orifice in the duodenum enlarged by making an oblique incision through this portion of the bowel.

Very much importance has been attached to the manner of placing the suture, and each suture should be seen to be secure by careful examination before the parts are replaced in the cavity of the abdomen.

The wound in the abdomen is closed and dressed antiseptically.

For the first few days the patient takes only bits of ice by the mouth, and is fed by rectal injections.

The operation is accompanied by no little danger, collapse being more frequently the immediate cause of death, peritonitis not occurring as often as might be expected. Hemorrhage may be reduced to its minimum by ligitating the vessels before they are divided, but should it take place, and especially as a secondary result, the complication would be accompanied with great danger, if not disastrous in its results.

As regards the result of the operation on the patient, five out of eight cases died within a few days after the operation. Of those who recovered from the effects of the operation, we find one, Billroth's first case, survived four months and then died of general cancer of the peritoneum, while the other two cases, one of Dr. Czerny and one of Dr. Wolfler, were alive and doing well when last heard from, seven or eight months after the operation. That an idea may be formed of the adverse circumstances attending some of these cases, it is well to know that in one or two instances death has taken place while the surgeon was yet on his way to the place of operating.

MORALITY: FROM A MEDICAL STANDPOINT.

BY J. B. HIBBEN, M.D., TOPEKA, KANSAS.

I propose to approach this subject first theologically, by examining into the real influence of religious belief upon public or private morals.

There never, perhaps, was a period in the history of man upon this earth when the human mind was more active and more inquiring, and less disposed to submit to shams or make-believes, than now.

As one consequence, science has walked boldly into the arena of conflict, and gained numerous and glorious victories for humanity and progress over superstition and ignorance that seemed destined to live forever.

As another, it is claimed by the enemies of Christianity, and generally conceded by its friends, that all over the civilized world at the present day, a denial is spreading itself of all theological creeds and

religious dogmas more complete than was ever before known. Now I mention this fact, not to deny it, or to account for it, but to call the attention of my learned hearers to one phenomenon connected with it, or consequent upon it, and involving points that I think have an important bearing in the consideration of the subject of morality. The phenomenon is this: The clergymen of high church and low church, the defenders of the ancient traditional creeds, with one voice cry out, "What will become of public or private morals if this religious decline is not arrested?"

Our theological creeds lie as the base of all true religion; hence, if we abandon them man will degenerate into a philosophical barbarian, or a wild, ungovernable acman! Now with all due deference to the high authority that gives expression to these fears, we have to say that they neither speak wisely nor to the point. They do not speak to the point, for the question to be decided, and to be decided on the facts, is: Are these theological dogmas *true?* Are they the truths of God epitomized, and is there any way of verifying their truth? If not, let the consequences be what they may, they must sooner or later go down under the relentless hand of destiny. Prof. Huxley in one of his remarkable essays speaks upon the subject as follows: "If it be demonstrated to me that without this or that theological dogma the human race would relapse into biped cattle, more brutal than the beasts by reason of their greater cleverness, my next question is to ask for proof of the truth of the dogma. If that truth is forthcoming, no drowning sailor ever clutched a hen-coop more tenaciously than I and all mankind will hold by such dogma, whatever it may be. But if the truth is not forthcoming, then I verily believe the human race will go its evil way, and my only consolation will be in the reflection that however bad our posterity may become, so long as they hold by the honest rule of not pretending to believe what they have no reason to believe because it may be to their advantage so to pretend, they will not have reached the lowest depths of immorality." And this brings us to the second point; that the speech of the churchmen above named is not wise, and that their fears are groundless. For although it is most unquestionably true that the more earnestly a man believes in any religious dogma the more devoted will he be to any system of morality founded upon it, it is nevertheless unquestionably true that a pure or perfect morality cannot be founded on an untruthful dogma. Mere credulity, earnest belief in the truth of a dogma, will not of itself produce good morals. Religious creed and the resultant morality are like legislation and facts; legislation that is based upon a mistaken view of the facts cannot be expected to work well in results. Neither can a mistaken theology produce good morals. Hence, we claim that it is in itself immoral to take the position that the truth of a religious dogma must not be questioned; that we must adopt the children's play of "make-believe," lest the discovery

of its falsehood should produce a bad moral effect. A false theology is founded upon a false estimate of the facts of the universe and a false estimate of the consequence of human action; hence the morals based upon them cannot be good, however they may be. An old Kentucky darky once said to the Universalist preacher after his sermon to the colored people, in which he denied the literal fire and torments of hell: "Massa, you may be all right, but if dese niggers hear anudder sermon like dat, by next Sunday dar won't be a chicken left on Massa Taylor's plantation!"

We hope that none of our medical brethren will make the mistake that we are in this discussion attempting to inject any religious dogmas of our own, whether orthodox or heterodox. We are discussing religious principles, and not creeds.

We are moreover convinced that theological doubts have not yet entered the minds of the great masses of the people in this Christian country, and that they for the most part believe in a personal God, and a future life and judgment to come, with as much certainty as they believe that steamboat and railroad carriages will carry them from one point to another, and hence it follows as a matter of course that their moral conduct is greatly influenced by this religious faith; but we are by no means justified in deciding beyond controversy that the morals we practice are good or bad, until after the determination of the question whether the theology on which it rests is true or false. It may be replied, we have (the most of us) determined that for ourselves; therefore we have perfect confidence in our theology, and the morality founded upon it. But greater knowledge and reading, and better knowledge of the opinion of the leading minds of both Europe and America upon these great problems of life, may tend to lessen our confidence.

I think it may be asserted to-day with truthfulness, that the really greatest and most thoughtful minds in both Europe and America reject as unreliable all those phantoms of the imagination, the old views of God and soul, and everlasting life beyond the grave. Some months ago Mr. Frederick Harrison, a lawyer and philosopher, and a present leader of the present school of English Positivists, entered into a discussion with bishops, lords and distinguished clergymen of England, on the subject of the soul and future life. The leading minds of England entered heartily into the controversy, and contended against Mr. Harrison, who denied that man has any separate entity which may be called a soul; that his organization shows that his every thought and emotion is in functional relation with the body, and that therefore it is as absurd to talk of a man thinking independent of his body as it would be to talk of his growing six feet high without a body; that when a man is dead all there is of him is to rest forever, and that there

is nothing to be said of a man when his carcass is laid beneath the sod, beyond a simple final "vale."

Now in advocating the unpopular side with such powerful debaters, it would seem that Mr. Harrison would be at great disadvantage; but with a felicity of expression that is inimitable, and with a reverence and depth of feeling that could but command respect, he absolutely seemed to disarm harsh criticism, and he in fact several times forced his opponents to a defensive position, which they indeed were hardly able to maintain.

Another leading English philosopher and poet, a son of a distinguished clergyman, has lately published a remarkable book entitled "Literature and Dogma," in which he boldly affirms that the old theological idea of an infinite God, who is nevertheless a person, and who thinks and loves, etc., is a contradiction in terms and an exploded superstition.

We refer to these advanced thinkers in their effort to deprive us of the old-fashioned idea of God and soul and immortality, not because we are in sympathy with them, but to affirm that if ever successful, it must necessarily involve a moral revolution. I don't say it would destroy morality if we were ever forced to abandon all our old theology, for morality has a basis of its own quite independent of all theological belief. But if certain acts are regarded as immoralities upon theological grounds, if the theology turn out to be false, to be based upon a mistaken view of facts, then the immorality of the act will be questioned. To illustrate, take suicide. It is commonly regarded to be wrong by theologians, on the ground that God, our Heavenly Father, has put us at our respective posts, and that no true soldier will leave his post until relieved. Now let us suppose that a man is laboring under a disease which makes his existence one of excruciating agony, and which must kill him anyhow in a few months, and which is a source of misery and suffering to his friends: we contend in such a case if it could be shown that our theology is mistaken, and that there is really no substantial reason to suppose that God has forbidden such an act, its morality would appear very different. Indeed, the best of men would probably justify an act of suicide under such circumstances. Take again, the law of marriage and divorce. Suppose a man's wife is hopelessly insane: ought he to be allowed to marry again? Ought divorce to be granted under these, or any circumstances? Now people who believe that marriage is a sacrament will answer this question differently from one who believes marriage is a mere civil contract. People who live in a country where the established religion is that life is an evil, and annihilation the greatest boon that can come to man, and the people who live in a country where the prevailing faith is that the earth is the Lord's and belongs to His saints, and that we are His

saints, has surely a good deal to do with the different morality that distinguishes a Buddhist from an American.

Another striking illustration of the dependence of our moral views upon our religious belief is given in a late number of the Ohio *Medical and Surgical Reporter*, in a paper communicated by a lady correspondent upon prenatal murder and abortion. "In vain," exclaims this ardent and eloquent woman, "do women try to screen themselves with numberless absurd excuses for their horrid crime, which indeed shows consciousness of guilt. 'We can't afford to have children;' 'My wife is too young to have the care of a family;' 'My health is too poor; am not strong enough to endure the suffering.'" "But," continues she, "there is no just and honorable reason why an abortion should be produced except when it is to save the life of the mother. Some have dared to sit in judgment upon the type of God's handiwork, and say there is no life until the fœtus quickens; but life really has its beginning with the beginning—with the embryo—with the soul. Where there is no soul, no life, no spirit, there can be no conception.' Now there is a want of exactness and a confusion in the writer's use of the words "soul," "life" and "spirit," but we indorse her views. Some writers have contended that the separate entity which we term the soul reveals itself in our sense of personality, but the objection lies against this theory that it is not certain that a child—say an hour old—has any sense of personality, while on the other hand, a dog or an elephant probably has this sense of personality. Indeed, it is not upon theological grounds of soul or life that the medical profession universally frown upon the practice of abortion, whether early or late in its state. It is an immoral act, whatever may be our opinion of soul, or the commencement of soul or life. It is degrading and demoralizing to the parent, a probable precursor of other crimes, and has ruined permanently the health of many wretched women for the remainder of their wretched lives. And yet, though frowned upon by all honorable practitioners—denounced as immoral and murderous in all quarters, it is known to be practiced boldly, and with little or no reticence, by Christian women in every portion of our country. Not practieed by the poor daughters of toil, who would have some show of excuse in justification of their crime in the fact that they are overworked and poor, and unable to properly provide for their already growing family, and that an increase of children necessarily exposes the life of the new-born child to poverty and ignorance, and may be crime; but Christian women, who have no other apparent motive than an unwillingness to submit to the additional discomfort and confinement that child-bearing necessitates. A friend of the writer informed him that while living in a large town in Maryland, he had frequently heard the mothers, women of the highest respectability, speak openly in his

presence of their efforts and experiences in this line, making it a matter of fun and jollity.

You have all heard of the old Christian lady, who in discussing theology in the sewing circle said that she, for her part, believed in the doctrine of total depravity, if people would only *live up to it*. For one, I think that these Christian mothers who practice self-abortion ought, like the old lady, to believe in the doctrine, for they certainly live up to it. An old army officer once said to me: "I never believed in the doctrine of total depravity until I heard the mule-drivers swear — then I gave in." I think this additional item in regard to Christian mothers would tend greatly to confirm him in his faith.

And now in conclusion, to recapitulate the points of our paper: Without denying that morality has a basis of its own, quite independent of all theology whatever, we have still assumed and tried to show that the destruction of our present religious ideas, our orthodox theological belief, would involve a moral revolution in our beliefs upon many questions, and especially would revolutionize our moral judgment upon medical points. There is this to be considered as a modifier of the excitement attendant upon the mere imagining of such a tremendous result, viz.: it will be a long day before the Americans give up the idea of a God and soul and immortality for any other religion. Moreover, this new religion, whatever it may turn out to be, will only substitute one set of moral rules and sentiments for another, just as the establishment of Christianity and Mohammedanism did when they superseded the various forms of paganism; so my medical friends may rest assured that whatever theological revolutions may come, there will still be a good deal of morality left to consider and observe, even from a medical standpoint.

SANITATION OF THE SICK-ROOM.

BY JOHN GRASS, M. D., INDEPENDENCE, KANSAS.

The subject of Sanitary Science is one which has rapidly grown within the last few years, and one which is claiming the attention it deserves, in proportion as we become acquainted with the causes and preventions of disease. Whatever can cause, or help to cause, discomfort, pain, sickness, death, vice, or crime — and whatever has a tendency to avert, prevent, or diminish such causes — are matters of interest to us as sanitarians. It invites us to so wide a range of thought that its consideration as a whole is impracticable in a paper so brief as this. In consideration of this fact, and with a view of offering something for

your consideration that may be of practical benefit in our daily practice, I shall invite your attention to a proper sanitation of the sick-room.

The belief of the ancients, that disease is a devil, who alights upon the unsuspecting victim of his wrath because of an offended Deity, has given way before an intelligent knowledge of disease and its causes. Instead of an offended Deity or a malignant devil, we find a poisoned system, and often a malignant disease. We find not only one devil seeking to destroy the life of our patient, but a multiplicity of them, in the form of living organisms of microscopic proportions; and from a few, which first began the attack, their numbers rapidly increase under circumstances favorable to their development, until their number is legion. With the victim of their evil designs once upon his back, with all his powers of resistance weakened, it will be necessary for the attending physician to use every available method known to sanitary science in order to cut off the resources from which they continuously draw their supplies, and thus afford a better chance for a restoration to health. It is much easier to successfully besiege a garrison with no source from which to draw its supplies, than one which is being continually reinforced by fresh supplies and new troops. So, also, is it more easy to vanquish disease when the causes which produce and augment it can be removed.

How then can we best guard the sick-room against those sources of infection and contagion which are alike so injurious to the patient and those around him? Every physician should ask himself this question upon entering the sick-room; for what will his efforts in battling against disease avail him if he ignores the source from which it has its origin? Our duties to our patients signify something more than the prescribing of medicines and the application of poultices. We must regard the hygienic surroundings. We must have a proper regard for ventilation, warmth, light, and cleanliness — all at the least possible expenditure of vital power to the patient. First of all these, and without which all the rest you can do is as nothing, is to keep the air your patient breathes as pure as the external air, and at the same time avoid the chilling effects of a draft. Yet what else is so little regarded by those usually in charge of the sick? Even if it is thought of at all, most extraordinary misconceptions are entertained about it. How often are we called to the sick-room when, upon opening the door, the most offensive odors almost stifle us, and yet those in attendance will hasten to close it, for fear the patient will "catch cold." Even in admitting air into the patient's room, few people ever think where the air comes from. It may come from an adjacent room which is as poorly ventilated as the first, or from a hall which is unaired and full of fumes from the cooking; from a sink, a wash-house, a cellar, or, if in the city, from an open sewer; and with this air the patient's room is supposed to be purified — it had bet-

ter be said poisoned. The question may be asked, when ought windows and doors to be opened? The answer is, when ought they to be closed? Always have plenty of air from without, and that, too, from those windows and doors the air comes the freshest and purest. With a proper supply of openings in a room, fresh air is easily secured when your patient is in bed. Avoid a draft of air between two openings, but do not be afraid of open windows. People do not easily take cold in bed. This is a popular fallacy. With proper bed-clothes and hot bottles, if necessary, you can always keep a patient warm in bed, and well ventilate him at the same time. To have the air as pure within as without, it is not necessary to have the room cold, and the condition of the patient and the nature of his ailment must always be taken into consideration in regulating the temperature of the room. To attempt to keep a room warm by keeping it closed, and thus compelling the sick to breathe the poisonous emanations from their own bodies, is a certain way to delay recovery or destroy life.

Another popular fallacy concerning ventilation, is the supposed danger from exposure to night air. We will often find a sick-room well opened in the daytime, and carefully closed at night. They do not stop to consider that we can breathe no other air at night but this same dreaded night air. It is only a question of pure night air from without, and foul night air from within, and a proper ventilation is as essential at one time as another. Then, if we are to keep the air within as pure as that from without, it must not be forgotten that everything in the room which can give off effluvia serves to contaminate the air breathed by the patient. Even in health, persons cannot with impunity repeatedly breathe the air in which they live, on account of the poisonous nature imparted to it by the exhalations from the skin and lungs. In disease, where everything given off from the body is highly noxious and dangerous, not only must there be plenty of ventilation to carry off these poisonous substances, but the secretions from the kidneys and bowels must be instantly removed from the room. Of the poisonous nature of these excreta it would seem unnecessary to speak, were not the proper precautions concerning them so constantly neglected. In typhoid fever, and some other infectious diseases, there is no longer any doubt that the infection can be imparted from the stools of the patient. Then they should not only be removed instantly, but they should be covered over with earth, where there is no danger of contaminating the water supply, and the chamber utensil carefully washed and left to air before it is returned to the room. How often have we found the chamber carefully stowed away under the bed, in order that a stool may be preserved for the doctor's inspection, and then to remove the offensive odor we find them burning paper or a cotton cloth.

Let no one ever depend alone upon fumigations or disinfectants for purifying the air. The offensive substance, not its smell, must be re-

moved. It has been said that most disinfectants are of essential importance in the sick-room. "They make such an abominable smell that we are compelled to open a window and admit the fresh air." But we must remember that no manner of ventilation can freshen and purify the air in a room unless the most scrupulous cleanliness is observed. Dusty carpets, dirty walls, musty curtains and furniture, filthy and poorly-aired bed-clothing will counteract your best efforts at ventilation. For a sick-room, a carpet is perhaps the worst expedient which could by any possibility have been invented. As a repository for catching and retaining the germs of disease, it meets every requirement. A dirty carpet literally infects the room, and when we come to consider the great amount of organic matter which it absorbs from a polluted air, and from the fact of people coming into the room, this is not surprising. A bare floor, well and often cleaned, is preferable in a sick room to the newest, most costly carpet. The walls should be well cleaned, and if of plaster, may be freshened by whitewashing. The furniture should be scanty in the room, so that it may be the more easily dusted and cleaned, and the window curtains should be often changed and aired. A proper care for the bed and bedding of the patient is absolutely indispensable to his well-being and comfort. Without this, the patient will have reintroduced into his system the emanations from himself, which day after day and week after week have saturated his unaired and unchanged bedding. How can it be otherwise? If we consider the amount that an adult person in health exhales from the skin and lungs in twenty-four hours, loaded with poisonous organic matter, and that in sickness the quantity is often greatly increased and is much more noxious, we must know that a large proportion of it is absorbed by the bedding, and there it will remain, unless the bed is properly changed and aired.

The bed and covering should be as light as is consistent with the comfort of the patient, and where it is not utterly impracticable, it should be thoroughly aired every twenty-four hours. In some instances this will not be possible, but the nearer we can approach to it, the better it will be for those under our care. This can be best accomplished where you can have two beds at your disposal, and the lifting is done upon a sheet or blanket, which will avoid tiring or exhausting the patient. In this manner the whole of the bedding can be hung up to air for each intermediate twenty-four hours. The bed should be placed in the lightest part of the room, and where the patient can look out of the room if he desires it. And this brings us to a consideration of the influence of light upon the sick and enfeebled. The need of light for a patient is only second to a need of fresh air, and after a close room, the next most hurtful thing is a dark room. Of course, in some diseases of the eye, and a few other conditions, light must be for-

bidden, but whenever this must be continued any length of time, it is always at the expense of the general system. Not only light, but the direct rays of the sun, should pass into the room if possible. While the effect of the sunlight is invigorating and cheering to the patient, directly, it also aids him indirectly, by its purifying effect upon the air. We have all noticed the musty smell given out by a room from which all sunlight has been persistently excluded. If the patient is able to be about the room, great benefit may be experienced by sitting for a while each day where the sunlight will fall directly upon him, and if he is confined to his bed you will find him involuntarily turning his face toward the light, just as a tender house-plant will bend its stem in the same direction.

The personal cleanliness of the patient should be carefully observed by the attending physician, and he should see that every direction in regard thereto is closely followed out by those in charge. It has already been said that in disease, as well as health, a large proportion of organic matter is constantly excreted by the skin. In most instances the amount is greater in disease than health. This excretion is left upon the skin, to be rubbed off upon the bed-clothing, and be again reabsorbed into the system as a poison, unless it is removed by washing. The great relief afforded to patients after the skin has been well washed and dried, is one of the most common observations of the sick-room, and yet it is one of the most frequently neglected. Besides the therapeutical effect of the water, in many cases, upon the disease itself, it is necessary in order to keep the skin open and free from obstruction. The manner and time of washing, and whether you use warm, cold or tepid water, will always be suggested by the nature of the ailment and the condition of the patient.

It may seem that these matters belong within the province of the nurse rather than the physician, and yet how many of us can testify that in almost every instance a proper sanitation of the sick-room, if left entirely to those in charge, will go undone. Until we can have intelligent nurses, educated for the purpose, we must see to it ourselves that the patient is not poisoned by his own excretions. I have known a number of that school which ignores pathology and delights in high potencies, to gain an enviable reputation by a strict adherence to cleanliness and proper ventilation. It is not because physicians do not know these things that they are not always heeded, but because, in their eagerness to overcome disease, they rely too much on medication alone, and trust those other matters of equally vital importance to the nurse. We cannot afford to stand idly by, waiting for the source of this poisonous stream to go dry. We live in an age peculiarly distinguished by progress, and sanitary science is not far behind in that

great advance that is being made all along the line, and the man in our ranks who ignores its teaching had better retire from the field.

Let it not be said of us that our only resource is—

> "Physic and blister, powder and pills,
> And nothing sure but the doctor's bills.
> . . . . . .
> Everything a body can bear,
> Excepting light, and water and air."

REPORT OF CASE OF RESECTION OF TIBIA AND FIBULA.

BY J. M. CARPENTER, M.D., NEW LANCASTER, KANSAS.

On the night of September 19, 1881, I was called to see A. H., aged about 25 years. Found him lying on the ground, with both bones of the left leg broken about two inches above the ankle, the tibia being thrust through the flesh and driven about an inch and a half into the hard road, as at least that much was covered with earth. The injury was sustained by jumping from a wagon while a run-away team was running at full speed. Being excited by some loose horses that were near, he attempted to walk, and caught his foot, rotating it outward, thus dividing at least one-half the soft parts by the projecting end of the tibia. The hemorrhage was very slight, showing that the arteries were intact. After removing him to the residence of his uncle, a distance of about three miles, I administered an anæsthetic, cleansed the parts thoroughly, adjusted the fragments, and closed the external wound with stitches and adhesive strips, placing the limb in a modification of Hodgen's splint and applying antiseptic dressings. I informed the friends of the patient that I considered his case very doubtful, as the projecting end of the tibia was badly injured by contact with the hard ground. The limb seemed to do well for three days, when the patient moved the limb in the splint to arrest severe itching of the part, thus interfering with the venous circulation, which was already very feeble. I was sent for in about three hours, but having been called away early in the morning I did not see the limb until about fourteen hours after it was moved. I found the foot extremely congested and swollen. I readjusted the fragments and applied hot fomentations. The next day about 9 A.M. the patient had a severe chill, lasting about two hours. I saw him about 12 M., when he had reacted somewhat from the effect of the chill, but the anxious expression of the face and the marked depression indicated the approach of pyæmia. I applied yeast poultices to the limb, administered morphia to relieve pain, and put the patient upon heroic doses of quinia, ferri, and whisky.

Dr. Haldeman, of Paola, met me in consultation at 5 P. M. of the same day. We concluded to continue the treatment for the present, as we thought best to interfere as little as possible with the limb, owing to the great depression of the patient's vital powers. Patient gradually improved in general health for ten days, but there was no attempt at repair of the injury. The end of the tibia was very dark, showing that nearly all its vitality was lost. I informed the patient and his friends that amputation or resection must be performed. They consented to the operation, provided we would employ every means to save the limb before amputating. Accordingly, on October 4th Dr. Haldeman assisted me in the operation.

Having fully anæsthetized the patient, I removed about two inches of the tibia. Finding the fibula badly comminuted, I removed the fragments, cutting the ends of the bones off even, which took away at least three inches. The soft parts left undivided at the time of the accident were severely lacerated, though both tibial arteries were intact. Dr. Haldeman was of the opinion (and I coincided) that amputation was the only means of saving the patient, as we thought the limb could not survive the extensive injury it had sustained. But informing him of my pledge to the patient, we concluded to treat the limb awhile longer and await the result. We put the limb in plaster dressing, keeping it well extended. When the dressing had hardened, we made an opening through which to dress the wound. The wound was dressed twice daily, keeping the cavity well filled with carbolated oakum. From that time there was rapid improvement in the limb. The local treatment was varied somewhat by using Peruvian balsam and a solution of hydrate of chloral, instead of the acid.

The cavity was kept full of oakum until it was obliterated. The internal treatment was simply supportive: tonics, stimulants, and good diet.

November 13th, a little less than six weeks after the operation, the patient could raise the limb from the bed without any dropping of the foot, and there was very little shortening.

November 20th, patient was able to bear some weight upon the limb, and the wound was healing finely. I did not see him again for about two months, as he went on a visit to relatives in an adjoining county. I found that he had been able to walk all the time by the aid of crutches. I then consented to his disposing of one crutch. The wound was not entirely healed, but was apparently doing well. The foot swelled somewhat during the day, owing to weakness of the venous circulation, the swelling being nearly all gone in the morning. I advised elevation of the limb to assist the return of blood from the foot, and the use of Martin's bandage, which he failed to procure.

Saw him again March 10th, just previous to his return to his home in Indiana. The wound was not quite healed, but no soreness remained.

Motion was good in the ankle-joint, and the limb was about three-fourths of an inch shorter than its fellow. Heard from him again May 1st. He asked to dispense with his crutch and use a cane, as he says he can walk without any assistance. The wound is almost entirely healed, and there is very little swelling of the foot during the day, showing that the venous circulation is almost restored to the normal.

Dr. Haldeman has my sincere thanks for his assistance and advice in this case.

In conclusion, allow me to say that the case was not reported on account of anything novel or difficult in the operation or treatment, but simply to call attention to the fact (of which I have spoken before) that direct coäptation of the fragments is not necessary for union to take place if the limb is perfectly immobile. The great lesson to be learned from this case is, always to give nature a fair chance to effect restoration before resorting to amputation.

ON BLOOD-LETTING.

BY GEO. W. HALDEMAN, M.D., PAOLA, KANSAS.

The abstraction of blood as a remedial agent has been practiced to a greater or lesser extent ever since medicine, as a science, has had a place in history. From the time of Hippocrates down through all the varying conditions of the human race, this agent has had its warmest advocates among the most successful and enlightened practitioners of medicine, as one of the safest and most potent remedies at their command for successfully combatting acute inflammations and violent congestions. Indeed, a history of medicine that should fail to give to blood-letting, especially in the form of venesection, a prominent place in the list of therapeutic agents as a remedy of undoubted value when intelligently employed, would be looked upon, to say the least, as exceedingly defective.

Of course the claim is not made that the practice under any circumstances has never been opposed. On the contrary, the propriety of the use of the lancet was bitterly opposed even during the lifetime of the "Father of Medicine," himself a warm admirer of its employment in pneumonia, pleurisy and other acute diseases. So in all the future years and centuries, sects arose, founded on a narrow basis — perhaps on a single misinterpreted fact — in opposition to the teachings of experience and observation. In these abortive attempts under various guises to revolutionize the practice of medicine, slander of the men and misrepresentation of their methods have largely constituted the

stock in trade. In quick succession they have superseded each other and passed away, to be forgotten as "things of the past."

At the commencement of the present century, there was, perhaps, greater unanimity on leading methods of practice than at any other period in the history of our profession. Under the teachings of Rust, and afterwards of Chapman, the employment of the lancet became so common that it was looked upon by the laity as well as the profession as indispensable in the treatment of all manner of ailments, whether chronic or acute. Thus the indiscriminate use of the remedy, proved by the experience of ages to have been powerful for good, led to a reaction, which since about the middle of the present century has not only made the occupation of the bleeder unremunerative, but has caused the practice to become unpopular, and to be looked upon as useless if not hurtful. There have been other influences at work during this time, calculated to effect a change of sentiment on this subject. The discovery was accidentally made that disease in many instances was removed alone by the unaided efforts of nature, and there happened to be a complete verification of the theory in the results obtained in persons who had submitted to homœopathic treatment, and had taken medicine whose potency had been increased, so to speak, by copious dilution and vigorous shaking. Contemporaneous with this infinitesimal humbug, the vagaries of Thomsonianism, now draped in a more elaborate but no less empirical garb, became a candidate for public favor, claiming that as "heat is life and cold is death," puking and sweating, supplemented with No. 6, was "the one thing needful." Both agreed as to the hurtfulness of bleeding, giving "strong medicine," "mineral poisons," and like remedies. The investigations made by Forbes, Bigelow, and others, resulting in the discovery that many of the diseases which physicians are called upon to treat are *self-limiting*, also did much to curtail the use of the lancet and other powerful agents. But the views advanced by Virchow, Bennett, and Todd, and adopted by many of the leading lights in the profession, have done a great deal more to create the belief that bleeding, under any circumstances, is almost never useful. So that now, "it must be admitted," says Hartshorne, "that blood-letting has more opponents and fewer defenders than at any previous period in medical history."

Thus the tide of professional opinion seems to have had its ebbs and its flows. At one time the bleeders seem to be in the majority, carrying their practice with unlicensed freedom to a doubtful extreme; at another time the practice is derided as pernicious and hurtful, clearly establishing the truth of the charge that while professional opinions are always circling around established facts and theories, they are never quite faithful to them. Such has been the history of blood-letting during the current century.

Let us therefore see if, avoiding extremes, we may be able to say

something in favor of what we will term a conservative use of the lancet, which by reason of its disuse in the last third of a century Prof. Gross has aptly termed the "lost art" in therapeutics. The report of a committee of able men, who reviewed all the evidence then extant on the subject, was published a few years since in the *British and Foreign Medico-Chirurgical Review*, as follows: "While the non-bleeding plan has a demonstrable advantage over that of indiscriminate and repeated bleedings, we maintain that the discriminating practice of moderate and early bleeding, general and local, in cases of more or less sthenic inflammation, and of refraining from it altogether in asthenic cases, whether as regards the disease or the condition of the patient, is pressed upon us, both by experience and science." Again, a well-known authority in our own country denies the charge that bleeding should be called *reducing treatment*, or that it lowers the vital powers of the patient's system; on the contrary, he claims that it only reduces disproportionate vascular excitement or congestion, and that it restores the equilibrium of the circulation. These statements are fully verified by the views of those of us whose experience extends back to the time—fifteen to twenty-five years ago—when blood-letting had not yet gone entirely into disuse. We know for ourselves that instead of the patient's strength being lowered, as in pneumonia, for instance, it was actually increased by the emission of blood from the arm, being relieved of dyspnœa, and freed from pain almost immediately, and often permanently.

In making mention of a few of the diseases in which the aid of blood-letting may be invoked, pneumonia is first called up, because of its importance in the list of diseases which every practitioner is called upon to treat. And the first witness that I shall interview is Dr. J. L. Atlee, of Lancaster, Pa., one of the oldest and ablest living physicians and surgeons, and hear what he said in a letter to a friend lately on this subject. Hear his words: "I cannot believe that the loss of from ten to twenty ounces of blood in the commencement of an acute disease—as, for instance, pneumonia, when the blood is driven into the delicate tissues of the lungs, already filled to repletion by the previous congestion—can produce as much real debility as the progress of the inflammation will do if we endeavor to control it by less decided and efficient remedies. It is disorganization and not real debility we have to fear; and it is organic lesion, the result of unmodified reaction brought about by a failure to lessen the force of the heart's action, which is the cause of death in a vast majority of the fatal cases. Post-mortem examinations prove this. In this stage of the disease, with a full and corded pulse, *there is no substitute for the lancet;* and in my experience, I have found it during the chill and in the congestive stage which precedes the inflammatory reaction, to cut short the disease and rapidly restore the patient."

In the language of another eminent authority, confirmed by the

experience of all who began the practice of medicine a quarter of a century ago, the claim is made in the light of the most satisfactory experience, "that in a robust person, not vitiated by a hereditary or an acquired diathesis, if the sedation which immediately follows the first bleeding does not continue, if the skin remains dry, and the pulse frequent and hard and denotes oppression and fettering of the circulation rather than real weakness, nature awaits a second bleeding; and we must hasten to perform it in from six to eight hours, according to the urgency of the indications. Frank pneumonia, thus attacked at the outset, rarely resists; and we may well say that no treatment can or ought to rival it in a case like this, if it be directed from the beginning with intelligent energy." And in private practice, where the physician is usually called in the beginning, we can affirm that we have often moved perfectly marked pneumonias in the space of twelve to twenty-four hours, by means of one or two bleedings. Up to the time I came to Kansas, in 1870, it was my invariable rule — in proper subjects of course — to abstract from one to two pints, and sometimes even more, blood from the arm in this disease; and never since, under what is termed "the supporting treatment," have I had as satisfactory results or as large a per cent. of recoveries.

As to blood-letting in conditions incident to the puerperal state, it seems to me there ought to be no difference of opinion, when it is remembered that the weight of the most eminent authorities, supported by the experience of the ablest obstetricians, both in this country and in Europe, is in favor of the practice. Such, however, is not the case, many still insisting that, when medication is indicated, or interference is demanded, there are milder measures at hand equally effective. On this subject, let Dr. Fordyce Barker, the eminent gynecologist and obstetrician of New York, be heard. He says: "I was called to see a lady in the sixth month of pregnancy, whose symptoms I considered indicated blood-letting. Not having a lancet with me, and being in the vicinity of an instrument shop, I sent there, and was astonished to find that they did not have such an instrument. This fact struck me as significant of the change of practice which had taken place during the last thirty years, and I do not recollect, in all the obstetric consultations in which I have met other physicians in the last fifteen years, of an instance where blood-letting has ever been alluded to by them as a therapeutic measure to be considered, except in a few cases of puerperal convulsions." Twenty-five years ago the authors who guided the practice of obstetrics, both here and in Europe, were Denman, Clark, Burns, Gooch, Lee, Ramsbotham, Rigby, Gordon, Simpson, Dewees, Velpeau, Meigs, Francis, &c. I find, from an examination of these, that they one and all recommend blood-letting in uterine irritation or plethora, erratic pains, cramp and numbness of the lower extremities, varices, insomnia, hemiphlegia, abortion, when threatened, and when inevitable

to hasten the expulsion of the fœtus. During parturition, blood-letting was inculcated for false pains where the patient was plethoric or feverish; for rigidity of the os or perineum; to prevent abdominal inflammations, and to ward off or cure convulsions. It was urged as most efficient for the arrest and cure of all post-partum inflammations, as also in puerperal mania and puerperal fever. This looks like routine practice, and so it was; but it is important that we decide whether or not the reaction has gone too far. "For my own part, I find," says Barker, "that with an increasing clinical experience, I am gradually getting to bleed more frequently, and this change of practice on my part has not arisen from any belief in what is termed a *changed constitutional type.*" Dr. B. does not recommend it in post-partum inflammations, as did the authors referred to, but during pregnancy and in parturition, where there is much fullness of the vascular system, causing congestion of the brain and spinal cord, or of any of the more important organs of the body, or when uremia exists, and, above all, in puerperal convulsions, "whether threatening or actually occurring," he says of blood-letting, in the language of Dr. Richardson, of London, "as a remedy it is the most scientific we have at our command — that it produces effects as patent to the eye, as convincing to the reason, as any known remedial measure."

I had intended to refer to the value of blood-letting in other diseased conditions of the human system, but am reminded that the limits of the occasion are already exceeded. I may be permitted, however, to remark, in conclusion, that while the sentiments of the paper are mine, the language has been largely drawn from Hartshorne, Wilson, Barker, Trousseau and J. L. Atlee; and I am only sorry that the lack of space prevents me from quoting others of at least equal eminence and notoriety in medicine and surgery, among whom I will but name Prof. Gross, the eminent surgeon, and Dr. Hiram Corson, a man who has been a successful practitioner in eastern Pennsylvania for over a half-century, who warmly believe in and heroically practice what they preach. As the prevailing sentiment seems to have made cowards of us all, or nearly all, it will not be considered out of place to introduce here a sentence or two from a letter written by Dr. Gross, referring to his address entitled the "Lost Art:" "From this address you will see that Drs. Corson and Michener are not the only medical men who believe in the value of the abstraction of blood as a therapeutic measure. For, in the course of lectures which I annually deliver in the Jefferson Medical College, I dwell with much force and emphasis upon the employment of the lancet in the early stages of inflammatory affections involving important structures, before they have been overwhelmed by inflammatory exudations. I wish to God that it was in my power to write this sentence, in letters of fire, upon the brain of every practicing physician and surgeon in the civilized world."

Finally, I may be allowed to say that these remarks have been hastily thrown together, not for the purpose or with the hope of saying anything new upon the subject, or of advancing any views not familiar to all the members of this Society, but rather for the purpose more particularly of calling the attention of the younger members of the profession to facts and views never successfully refuted, but apparently partially lost sight of, hoping that they will candidly continue the investigation.

Having done so, they will perhaps be more inclined to acknowledge, with the fathers in medicine, that we have in blood-letting a powerful means of cure, and that, in omitting to use the remedy, we perhaps now and then allow patients to die, who might live and be cured. Let them see to it that they are not led astray by men whose theories and practices are not in accord. Let them remember, as Prof. Lawson suggests, that even a Bennett, when well will oppose, but when sick will demand bleeding. "Thus Providence and the necessities of the case may become a more potent teacher than statistical tables or microscopic revelations."

REPORT ON OBSTETRICS.

BY W. W. COCHRANE, M. D., ATCHISON, KANSAS.

Probably the greatest obstacle the student will encounter in the study of medicine is the undecided points of theory and diversified construction of facts as given by medical writers. An author who writes a book for students, in which he gives the opinions of a number of writers, all differing on material conclusions, commits an error, injuring his young reader to an incalculable extent. If authors who have matured their education by study, experiment and practice sufficient to induce them to write are not competent to decide which is an approximately true theory on any one subject, how is it possible for the student to decide which is the correct one? Yet the books of the present day are such as would force any reader to disentangle the diversified opinions, and decide for himself upon a definite theory.

The student who is offered a decided opinion on a theory based upon a few prominent facts will be enabled to comprehend and retain its practical teachings long enough to be benefited by it. But he who attempts to unravel the contradictory conclusions of the medical authors will inevitably become so confused and discouraged that in spite of his will he defers a decision to the future, and finds himself at the bedside forced to indulge in subterfuge or empiricism, for he has as yet formed no scientific idea or theory upon which he can act. The student at the bedside of the parturient woman will feel the truth of

these remarks more sensibly than while attending any other cases, for there are no more unsatisfactory writers than those on obstetrics. But few, if any, give a decided opinion on any subject, or at least they environ their theories and directions with so many contingencies that it requires laborious study to glean from them any definite mode of practice.

The man who first wrote that "meddlesome midwifery was bad," did more to debase the science of obstetrics, and injured parturient woman more than empiric or midwife. It has been taught in the schools, repeated by authors, so that the obstetrical novice starts out on his practice imbued with the false idea, doing nothing, learning nothing, and instead of lamenting his incapacity, justifies himself, or quiets his conscience, by this absurd adage. Summoned hurriedly, ushered suddenly into the presence of his patient, who in pains and anguish scans closely his countenance, his words, hoping to discover his impression of the case—it is well for the doctor then, for his own sake, as well as for his patient's welfare, that he be confident or well masked. It will be well that he shows no indecision, for there are watchful, critical old women present who are to decide his future professional success. Questions absurd and perplexing are freely offered by the attendants. Time wanes; groans, sighs, if not complaints become more frequent. Is he not to meddle? Is he to do nothing but to offer rude silence or palliating excuses? This may do in rapid cases. He may by suavity or eloquence satisfy for a time. But in protracted cases it becomes imperative that some active measures should be resorted to without delay, in order that justice be done to the patient as well as to the profession.

It is said that nature in the parturient process, as well as in all physiological action, is competent to control, to master her every law. This might have been the status of parturition had it not been for the fall of Adam. But as other natural laws were changed by that sad catastrophe to the human species, it is likely that childbirth was influenced by it, and that woman was henceforth doomed to bring forth in pain and anguish. It may be presumptuous in man to dare to believe that he can change or improve the patent inscrutable laws of nature under any circumstances. But man, though weak, wild and chaotic has, and ever will, interfere. It is certainly a prime object of our profession to alleviate pain, to prevent anguish; for it is by doing this that we control and eradicate disease.

God has so endowed Nature with tolerance that some of our most absurd and noxious attempts to assist her are excused, and the pathological effects are repaired time and again. Surely, then, by lending our efforts to alleviate the pangs of childbirth we are not desecrating any part of a divine law.

Almost all authors concur in deprecating interference in labor except when physiological action is inadequate, or there is some mechani-

cal impediment. Although there is a wide difference of opinion as to when and how we should interfere, they with unanimity acknowledge the necessity of resorting to active measures in abnormal and impeded cases. So on this point there is no controversy. But they all seem desirous to inculcate the idea that anything done except in these two contingencies is meddlesome, pernicious, and dangerous. To what extent or how it may be pernicious, and the reasons given to identify interference with danger, are many of them so absurd that it is wonderful that the meddlesome dogma has not long since been ridiculed out of existence. It being the purpose of nature or physiological law to expel the fœtus from the uterus at term, it is evident that anything which tends to obstruct or retard this process is abnormal or pathological. All physiological action controlled by the involuntary system of nerves is performed without pain, except in that of parturition in civilization. Animals bring forth their kind without pain or difficulty. Uncivilized healthy woman experiences little or no pain, and the civilized woman is the only exception to the general law.

These facts would seem to justify the modern obstetrician in deciding that actual labor-pains are not caused by a physiological law, but are a symptom of pathological action, and as such, in accordance with all medical philosophy we are fully justified in contending with not only to alleviate, but to eradicate.

There are two distinct sets of muscles involved in the process of parturition—the longitudinal and the circular—the concurrent action of which is requisite to expel the fœtus from the uterus. They are closely allied, but in some degree antagonistic, as the circular fibers of the cervix are at all times retentive, and it requires an active and continuous force to relax and distend them. The persistent rigidity of this circular or sphincteral muscle is the only cause of protracted natural labor, and whatever may be the remote cause of pain, it is a logical conclusion that the proximate cause is the unnatural rigidity or continuous contraction of the muscular fiber of the cervix—rigidity and pain as cause and effect being decided to be unnatural or pathological—we can but conclude that it is as imperative to endeavor to prevent them as it would be to use prophylactic means to destroy any noxious element of disease. Surely there is no one at the present day who is so irrational as to condemn intelligent interference in any case of this, to the human species, all-important process, provided that no principle of safety is ignored. Clinical evidence conclusively demonstrates that the shortest births are the most healthy, recovering more rapidly, as well as causing less pathological sequela. It is only in protracted cases that we have pathological sequela. It is in cases of short duration, even of one pain, that we find the least injury done, or no after effects. This being granted, it would appear clearly our duty in the honest management of our cases to endeavor to

shorten the period of labor, that our patients may have the full benefit of the prophylactic measures for the prevention of dangerous complications liable to arise from delay.

Providence, in its kindness to the victims of stolid imbecile midwifery — despairing of successfully imbuing the author with a rational idea — has given the munificent boon, chloroform, to alleviate and prevent the general effect of pain. But it still points with an unerring precision to our duty to meddle in all cases, at all times, for the purpose of preventing delay and its disastrous consequences.

Nature furnishes ample force in the power of the longitudinal muscles to expel the fœtus in all cases at the proper time. It never defaults except when exhausted by active and prolonged effort to overcome artificial impediment. This force is effective in proportion to its persistence, as when it is intermittent, the pains of short duration, there is but little progress, however powerful the contractions may be. But when they are continuous the circular muscular fiber is paralyzed, relaxation results, and distention is rapidly accomplished. Muscular fiber owes its normal rigidity to nerve force, and in order that this power shall impart its energy to a sphincteral or other muscle, it is essential that there should be a free circulation of arterial blood in its capillary tissue. Compression excludes this arterial blood, and relaxation results only in proportion to the continuance of the pressure. Intermission in the pressure not only fails to relax, but is highly pernicious, inasmuch as it permits the venous blood to accumulate, causing more or less congestion, which prevents the overflowing of the nerve force, increasing rigidity, endangering contusion, inflammation and its disastrous consequences. As Providence interferes to cure, not to destroy, it is a rational deduction that this intermission in the uterine contraction is unnatural or artificial. Providence has clearly intimated the duty of the profession, by furnishing them with the various remedial measures to obviate this unnatural action. The oxytocics are numerous and often resorted to, but any one of them will sometimes have, beyond control, an untoward effect on either the mother or fœtus. Opium nauseates have a direct tendency to relax the cervical rigidity, but they are also liable to reduce the action of the fundus. Ergot stimulates the longitudinal muscles to contract, but it has a pernicious influence by increasing the action of the circular fibers. It requires intelligence and experience to avoid injury when using any one of them. Any one of them will often prove ineffectual, when it becomes necessary to resort to the potent, never-failing forceps. There is every reason — the most cogent argument — in favor of abandoning or superseding oxytocics of any kind by the use of the forceps. They should be used in all cases, at any period of labor when the os is sufficiently dilatable to admit of their introduction.

There is no therapeutic measure which has been so misrepresented,

so maligned, as that of the forceps. Authors have thrown around them a halo of mystery so dense that the student has been deterred from studying their use, and physicians have practiced for years and never used them. This valuable prophylactic measure, as simple as it really is, has been neglected as being too abstruse to warrant investigation, either by the hurried student or busy practitioner. So graphically have the difficulties in the way of their use been portrayed, that they have been laid aside as an article to be used only as a dernier resort, and then with fear and trembling. It has been said that there was danger, from introducing them, of lacerating the soft parts of the mother, and even of forcing the blades through the body of the uterus. This is not only absurd from its impossibility, but an insult to the merest tyro as insinuating that he could be so barbarous or thoughtless as to be induced to use the requisite force to abraid the most delicate texture, much less the dense muscular fiber of the body of the uterus.

With a knowledge of the anatomy of the pelvis, it is difficult to conceive that the slightest injury could possibly be inflicted on the mother by their lateral introduction—the only way they should ever be introduced. No injury is at all likely to be done to the fœtus, as the only effect possible is from compression, and that made at any time by the forceps should never be comparable to that made by almost all natural labors. When the forceps are used for the purpose of preventing the recession of the fœtal head after a contraction, they will not only prevent the pernicious intermission, but will stimulate the longitudinal fiber to a more frequent and energetic action, and thus prevent the complications which are liable to arise from a protracted case. It is injudicious to offer direct assistance to the contractions in natural labor, as the expelling force is always adequate to produce the desired result when the effect given by the contractions are preserved during the temporary exhaustion or resting of the uterine action. It is hazardous to make traction during a pain, as it is impossible to gauge the power of any single contraction, and when there is rigidity a slight additional force may lacerate or compress to a deleterious extent.

Traction during a pain has no influence in preventing the recession of the head, nor does it stimulate the muscular fiber to a more frequent action; but traction during the intermission of pain, preventing recession, is equivalent to a continuous contraction; relaxes the sphincters by excluding the inflow of arterial blood and nerve force, which would increase rigidity. This effective and harmless influence of the forceps may be exerted on the vulva and perineum with safety, when traction during a pain would at any time be hazardous as endangering laceration.

The text-books inculcate the idea that it is imperatively necessary to define the presentation before introducing the forceps, and they give minute, or rather complete directions for their introduction in

each presentation. Recent writers have exposed the utter futility of this imbecile prerequisite, and it has been decided by competent clinical authority that when the forceps are introduced laterally into the pelvis, they are not only effective alike in any position, but are perfectly harmless to the fœtus.

It may be said that the horror of instruments has a pernicious influence on the patient; the community aware that they are seldom requisite; that it would be destructive to any physician's practice who would attempt to use them in all cases. This at one time was the status of chloroform; but now for a physician to object to using it would certainly impair his reputation and injure his success in practice. The prejudice to the forceps existing with the profession is almost universal, but at no distant day there is no question but that progressive science will compel them to abandon their fossil ideas and adopt the new rational mode.

Fortunately for the profession of the present day, chloroform precludes the necessity of considering the impressions of the parturient; the mother rescued from peril will question but little the means when she hears that the forceps were used; if impressed at all, will at once conceive that they were requisite. She will be the more grateful for the safe delivery from danger, and will feel no dread of them in an after confinement. A few instrumental cases, and irrepressible fashion, will soon control this as it does in other modes. He who neglects to use them will be adjudged behind the times, and the female community will say that the young doctor surely understands his profession, for he carries his instruments with him, and of course he knows all about them.

On reading the many complex directions given in the text-books for the use of the forceps, we can but conclude that the absurd routine was conceived solely for the purpose of enabling the accoucheur to make an exhibit of his ignorance, or to give him an opportunity to impress the attendant and patient with an idea of the immense importance of his manual performance. There is certainly an utter reticence of any consideration of the quietude of the patient. The doctor learns on his arrival that there have been severe pains for six hours. After many questions he calls for lard, and makes the first vaginal examination. Then he is to be silent, or equivocate on being asked if it is all right: a reëxamination at the onset of each pain, the digital distension of the os, the patient holding the breath and bearing down; this terrible physical and mental strain, with pain and fright continuously for six or twelve hours, and then a negotiation for consultation. In two or three hours the new doctor arrives and makes a thorough examination; they retire, and decide to use the forceps; then the assembling of the relatives to hear the situation and consent to the use of instruments; then the persuading the patient to acquiesce; then the placing her in posi-

tion with nates on the edge of the bed, with each pedal extremity in the lap of an assistant, then the hot-water bath for the forceps, and oil to anoint them. What an aspect for a modern utilitarian to contemplate! Is it strange that all women after childbirth are nervous invalids? Now it is to be confidently anticipated that this rhodomontade will in the near future be forgotten, and the directions will be, for all normal cases, that the physician shall decide from the history of the case, and the manifestations of the patient, when labor is impending. When he shall have so decided he shall at once administer chloroform; when fully under its influence he hands the phial to the nurse, and seated at the bedside makes a vaginal examination. Finding there is dilatability of the os, he at the next pain ruptures the membranes, and quietly taking his forceps from his side pocket at once proceeds to introduce them, and continuously prevent the recession of the fœtal head. Following these directions implicitly, and we may be assured that the long hours of watching with anxious solicitude will be reduced to a minimum. The many hours saved for business or study; the consciousness that we have saved one or more patients from the ruthless clutches of the gynecologist, will be rich recompense for us as we proceed on our often perplexing and unrequited mission.

GUNSHOT WOUND OF THE HEART.

BY G. L. STONE, M.D., IOWA POINT.

George Babb, aged 30 years; 6 feet 3 inches high; weight 200 pounds; received two gunshot wounds on the 4th day of April, 1882, at 11 P. M.; died at 3:30 A. M. of the 8th day of April, 1882.

Autopsy on the 8th, by Drs. Carter, Walsh, Jones, and Stone. The first ball pierced the skin one-eighth inch below the right nipple, passed through the pectoralis muscle, the intercostal muscle, between the fourth and fifth ribs, passed through the right pleura, entered the pericardial sack, pierced the walls of the right auricle of the heart just to the left of junction of vena-cava superior, and dropped into the right auricle, from the bottom of which it was taken by Dr. Carter.

The second ball pierced the skin two and one-half inches from the posterior median line. Passing through the muscles of the back, and between the eleventh and twelfth ribs, it passed through psoas magnus muscle, upper end of right kidney, and through the peritoneum, just at the junction of cœcum and colan. It passed through right lobe of liver, through diaphragm, costal cartilage of eighth rib, pierced the

muscles of the chest, and was taken from between the muscles and true skin, about three inches to right of anterior median line.

Such was the course and position of the two balls. The peritoneum and pleuræ were very much congested. The pleuræ were filled with blood.

Babb lived 76½ hours after being shot; his pulse ranged from 90 to 135; his temperature from 100 to 105°; he was rational till death; took small quantities of food, which he frequently vomited. He occasionally spit small clots of blood, which I believe was caused by the injury to the liver.

FRACTURE OF VERTEBRA.

BY W. L. SCHENCK, M.D., OSAGE CITY, KANSAS.

Captain Jasper N. Watkins was wounded at the battle of Chancellorsville, May 2, 1863, and treated at hospital near the battle-field, and at Washington, and finally discharged from the service.

I was called to see him July 1st, 1873. He complained of severe pain in his right hip, which he attributed to a ball received at Chancellorsville, and from which, though generally enjoying fair health, he had suffered occasionally during all the intervening years.

The ball entered the body from behind, immediately to the right of the lower lumbar vertebra, and could not have passed into the right hip without going directly through the body of the vertebra, though the patient persisted in locating it there, and said the surgeon who examined him after receiving the wound, did the same, and pronounced it mortal.

He had a low type of fever with a good deal of dull, and at times acute, pain in sacral and right illiac regions, which I believed consesequent upon the retained ball, but of which I could find no sufficient proof.

The weather was intensely hot and the ventilation of the sick room very bad, and with all the support we could give, our treatment ended in failure, and on the 15th day of August, 1873, after ten years of suffering, another life went out upon the altars of the Union.

Upon the next morning we made a post mortem, chiefly for proof on which to found an application for pension to the widow and orphans. Following down the cicatrix, we found the left transverse process of the fifth lumbar had been broken off near its pedicle. Another cut with the knife, and a large quantity of pus escaped, so fœtid that it drove all but myself from the room, and forced me to desist from further exploration, especially as I was satisfied the death resulted from injuries produced by the ball; but the history of a recent historical

case of gunshot wound of the spine causes me to regret that I did not thoroughly investigate the amount of injury to the spine.

FRACTURE OF VERTEBRA.

The vertebra are so compactly constructed, so strongly articulated and so well protected by muscles, that the force which fractures them frequently proves fatal; yet in this city it has been our fortune to treat several cases, which we will report, with such general considerations as they suggest.

All who have examined fractures of these bones know how difficult it is to diagnose their exact character, not only because they are so deeply embedded that under the most thorough manipulation the exact point of fracture and amount of displacement might elude detection, but any attempt at accuracy by manipulation would tend to press the broken bone upon the spinal cord, and bring about the condition most to be dreaded. If there is simple fracture of a spinous or transverse process, with or without concussion or effusion, manipulation will do no good. If of the vertebral arches or body of the vertebra, it may do much harm. Hence, if after a careful examination, we fail to make a satisfactory diagnosis, we must place our patient in bed in such position as is most comfortable, avoiding his lying upon the face, thus leaving the spine without support, enjoining perfect rest, employing such treatment as will prevent or combat excessive inflammation, and watch and wait. "The danger in errors of diagnosis," says Prof. Hamilton, (Fractures and Dislocations, p. 147,) "will be increased when to these conditions are added paralysis of those portions of the body which are below the seat of fractures, and which, in this case, may be the result of an extravasation of blood or simply a concussion of the spinal marrow. Nor do I think it would be possible now to determine positively whether it was simply a fracture of the spinous process, or of the body itself, of the vertebræ." The danger is in active interference when we have a case demanding no interference.

October 8th, 1874, we were called to a case in point, where if we erred in diagnosis, it was on the side of safety. Frank Donnelly, a healthy, well-developed miner, of Irish descent, aged 36, had just been taken from the mines, where, in passing through an old roadway in a stooping position, a large piece of roofing had fallen upon his back, leaving all below the point of injury completely paralyzed. Upon careful examination, the spinous process of the seventh dorsal was found lying close against the eighth dorsal, and it seemed possible to pass the top of the finger down to the marrow. We diagnosed fracture of the body of the vertebra, and in our diagnosis we were confirmed by Dr. James Haller, late surgeon Thirty-eighth Ohio Volunteer Infantry, and Dr. W. H. Mopman. We supposed there had been fracture of the vertebral arch and displacement of the upper portion of the arch,

while the lower points remained firm, thus leaving the least possible compression of the cord. The patient was placed on his back upon a straight, smooth, moderately firm bed; afterwards, and as soon as it could be procured, on an air bed. For the first three weeks his urine was drawn three times each day, and the bowels moved every third day by enemata of turpentine and croton oil, their evacuations afterward being voluntary. The regimen was strictly antiphlogistic, and opiates were given to secure ease and sleep. At the end of six weeks the patient was able to sit up, and in two months discharged with a good back. In this case, as we have indicated, the fracture may not have extended beyond the spinous process, but as far as diagnosis was possible, we were warranted in believing it involved the spinal arch. The suddenness of the paralysis excluded simple effusion, and the probability of concussion was lessened by the short distance through which the roofing fell, the fracture being the result of its weight rather than its stroke.

December 18th, 1874: Called to see David Park, a large and muscular Scotchman, 32 years old. Found a slight mark on the right of spinous process of fifth dorsal vertebra, and was informed it was made by the fall of a large piece of roofing while cleaning up a roadway in the mines. The patient complained of feeling very cold, and of tingling of the extremities, which were paralyzed. I directed warm applications to the feet and legs, and the attendants used bottles so hot they caused severe sloughing. I attended the patient two months, during which time the catheter was used twice each day, and the bowels moved by stimulating enemas. As the patient was gradually dying at the bladder, I advised his removal to his family, near Kansas City, where I learned he died sometime in March. I have frequently asked myself whether I might have done more for this patient, and, notwithstanding the weight of *authority*, have regretted that I did not try. Prof. Carpenter gives a formidable array of cases where operative interference has been tried, without one to relieve the monotony of failure; yet I believe an operation in this case, with proper subsequent support, might have saved my patient. My diagnosis was a limited fracture of ———, and my prognosis that elevating the depressed bone and removing spicula, if any, might have ended favorably. I know my diagnosis might not have been correct, or spiculæ of bone might have wounded the spinal marrow, and the inevitable might not have been prevented, and death, though inevitable, might bring discredit to surgery. Then comes the question, how far are we to consult the popular pulse before we avail ourselves of the only possible hope of salvation for our patient?

March 20, 1881: Called to see Charles Ogren, a healthy Swede, aged 20 years. He had just been thrown from a running horse, dragged a short distance, and stepped upon or kicked. Found him wholly unable to move or sustain his body on its spine, from fracture and displace-

ment of the two lower dorsal and first lumbar vertebræ. There was also considerable distortion of the line of the spine; contusion and slight abrasion at the point of fracture. The lower extremities were slightly paralyzed. We placed him in a comfortable position on a frame covered with tightly-stretched sacking, applied cold antiseptic dressings to the back, and gave him a generally antiphlogistic treatment. He passed his water voluntarily, but for a number of days with difficulty, and the bowels moved from time to time by croton and castor oil, and we gave anodynes to secure ease and sleep. At the end of three weeks all soreness had disappeared from the back, and all paralysis from the extremities, but the spinal displacement and the inability to elevate or sustain the body continued, and we cast about for the best means of fixing the bones in an immovable position, and enabling the patient to sit and walk. We decided upon a plaster bandage, *a la Sayer*, but as the patient was unable to elevate or support his body, aside from the risk of a serious displacement of the fracture in the attempt, we decided that it was impracticable to apply it with the patient suspended by the head and shoulders, and adopted the plan of Dr. T. J. Walker, surgeon to the Peterborough Infirmary, England, (see *British Medical Journal*, March 1, 1879.) In our judgment, this plan was not only better adapted to the case before us, and to fractures of the spine generally, but to a large proportion of the cases of Pott's disease.

Assuming that some members of the Society may not be familiar with it, at the risk of being a little tedious we will describe its application to one patient, recommending Dr. Walker's machine for saturating the bandages, which, with a little direction, a tinner easily made for us, and his proportions in mixing the plaster, viz.: Plaster (freshly baked) dr. xvj; mucilage. g. acacia dr. j; water, dr. viij, the combination being very important in preventing the plaster setting too quickly. We proceeded as follows: Beside the cot on which the patient lay we spread a double comfort, covering the end next the head with a doubled newspaper. Having taken the measurement of the patient from the armpit to below the anterior spine of the ilium and around the body, we marked it on the paper; our plaster being ready, the bandages, of slazy muslin, four inches wide, were quickly saturated, unrolled, cut six inches longer than the measurement around the body, and laid upon the paper, overlapping each other three inches. When one layer was completed, we placed a strip of paper across each end, to avoid confusion in using them, and on these placed a second layer and then a few strips, the full length, up and down the center, leaving a line for the spine. The patient, wearing only a neatly-fitting gauze shirt—no dinner pad—was carefully placed with his back down upon the strips, which, by the aid of Dr. Mopman, were rapidly and smoothly brought across the body, after the manner of a many-tailed bandage. The plaster gave us ample time, though none to spare. In fifteen minutes from the time we commenced,

we had the smooth, firm casing I presented to the East District Society at its meeting in May, 1881, and in a half-hour after the plaster had firmly set. The next day the patient could sit up, and soon walked about with comfort. This jacket was worn from April 7th to August 1st, and we had the result you now see. [The patient again exhibited to the Society.]

Though there remains considerable displacement of the processes, and slight curvature, the bones are well consolidated, and we have a strong and useful back. The patient has not missed a day from the mines, on account of his back, since the August following the injury.

One object in every case of fracture, and the same in Pott's disease, is to place the bones as nearly as practicable in their natural position, relieve them of all abnormal pressure, and keep them in a state of rest. In the cases under consideration, it is now generally conceded that the plaster jacket is the best means of obtaining the best results; but whether the normal position is best secured, and the casing best applied in the hanging or recumbent position, is yet an open question.

As already stated, in fracture of the spine, we are not always able to say what fracture or displacement exists, but if there is little or no evidence of compression of the cord, we must carefully avoid anything that will tend to such a complication. In putting the spine upon the stretch, as in hanging up the patient, after Sayer's method, we can readily see how liable we are to produce such a result.

The joints of the spine, in their normal condition, rest evenly upon each other, and support the weight of the body above. When inflammation, softening, or caries occurs, the pressure may cause absorption of the diseased part, and the body of the vertebra becomes wedge-shaped, the superincumbent weight, now bearing unevenly, pushes out the diseased vertebra, causing a bend in the opposite direction above and below, with every increase increasing the displacing force.

In suspending the body we may cause the weight to rest upon the sloping side of the diseased bone, tending to press it yet more out of place, and to produce pressure on the cord. I know the admirable results in the cases reported by Prof. Sayer, the plaster being applied while fully suspended, preventing these conditions; but if applied in the manner designated, with the patient lying upon the bed, where the curves are forward and backward, these conditions cannot occur, while pressure and pain will be relieved, the curves straightened and the body lengthened equally well. And in this position the bandage can be applied anywhere—at your office, or at the home of the patient, and without tripod, suspensory bandages, or professional aid, and without any such risks as attended the application, *a la Sayer*, to my friend Dr. N., of Burlington, Iowa, during the meeting of the American Medical Association, at Chicago, 1877. While the Professor applied the bandage the tripod was steadied by Dr. L., of this State, who, becoming too much in-

terested in the applications, came near pulling over both the tripod and Dr. N., when the distinguished surgeon blessed his assistant with full, round oaths, and comforted his patient by saying: "Do you know he came near breaking your neck, and if he had, it would have flashed over the wires from Maine to Oregon, that Dr. S., with his d—d stretcher, had killed a respectable physician from Iowa, and his appliance would have been brought into disrepute."

REPORT ON NECROLOGY.

SAMUEL RUSH GIBBONEY.

The subject of this sketch was born May 17th, 1834, near Belleville, Pennsylvania. When a boy he evinced an unusual fondness for books, and after passing through the various stages of common school and academic training, he spent some time at Tuscarora College, in Ohio, and commenced the study of medicine under the tuition of Dr. Samuel Alexander, of Milroy, Pennsylvania; and finally graduated, on March 14, 1860, at the age of twenty-six, at the Jefferson Medical College, Philadelphia. He was a close, inquisitive student during his collegiate course, and was quite thoroughly equipped to enter upon practice, for which he located at Belleville, Pennsylvania, remaining here for several years, during which time he married Miss Maggie E. Casey on February 18, 1862. On May 30th, 1864, he entered the United States service in the capacity of surgeon under John Campbell, U. S. Army Surgeon, and was assigned for duty to Balfour General Hospital, Portsmouth, Virginia, and remained here till near the close of the war.

Only one incident illustrative of his hospital labors is preserved. Some two hundred soldiers were brought in wounded, as the result of some disastrous engagements. Dr. Gibboney was at this particular time mainly relied upon for surgical assistance, and was so persistent and unremitting in his attentions that his energies were exhausted, and he fell prostrate from overwork.

On returning home he concluded to emigrate West, and relocated at Rock Grove, Stephenson county, Illinois, and remained here seven years, doing faithful and efficient service in his profession. A further remove westward took him to Osborne, Osborne county, Kansas, in 1872, and here he became identified with frontier life in all its newness. He was often called on to make long drives to visit patients living at a distance in the sparsely settled country. His perseverance in practice was more than equalled by his negligence in making collections for services rendered. Many who had been benefited by his services drifted away amidst the floating population, carrying his unpaid bills with them.

On June 18, 1881, Dr. Gibboney died, after a protracted illness continuing from October of the previous year. His disease was peritonitis, connected with other ailments. Dr. E. H. Dulin was mainly relied upon in this continuous sickness. His patient recovered in March, so as to partially resume business, and in June relapsed and survived only a few days. The medical significance of his case can be much more fully and correctly given by his medical attendant than the unprofessional writer hereof.

DRAFT OF MEDICAL LAW.

AN ACT TO CREATE A STATE BOARD OF HEALTH, AND TO REGULATE THE PRACTICE OF MEDICINE.

Be it enacted by the General Assembly of the State of Kansas:

SECTION 1. That within thirty days after the passage of this act the Governor shall nominate, and, by and with the consent and advice of the Senate, appoint from different parts of the State, nine physicians, who shall be graduates of respectable medical colleges, of good moral character and temperate habits, distinguished for their devotion to the study of medicine and the allied sciences, and of not less than ten years of continuous practice in their profession, who, when organized shall be known as the "Kansas State Board of Health." Three of said physicians shall be appointed for one year, three for two and three for three years; and annually thereafter three physicians of like character and reputation, and in like manner, shall be appointed to fill the vacancies occurring in said Board, who shall hold their office for three years, and until their successors are appointed and qualified. The said nine physicians having received certificates of their appointment from the Secretary of State, and taken the oath of office prescribed by the constitution of the State for State officers, shall, within twenty days after their appointment, meet in the city of Topeka and organize by electing one of their number President. They shall also, as soon as a suitable person can be obtained, elect a Secretary, who shall be the executive officer of the Board. The Board may elect one of its own number Secretary, in which case the Governor shall fill the vacancy, and it shall be his duty to fill all vacancies that may occur in said Board, and his appointments shall be valid until confirmed or rejected by the Senate.

SEC. 2. The State Board of Health shall make, adopt and publish such rules and order of business as may be necessary to make this act effective and facilitate the transaction of its business. It shall provide a seal, and all correspondence and papers emanating from it shall be

under the seal of said board. It shall meet quarterly, and oftener if deemed necessary, at such place as it may designate; the first meeting to be held in the city of Topeka. The annual meeting after the first shall be held during the month of June in each and every year, and a majority of its members shall constitute a quorum for the transaction of business. No member of the Board except the Secretary shall receive any compensation for services rendered, but their traveling and other necessary expenses while employed on the business of the Board shall be allowed and paid. The Secretary shall receive such compensation as may be allowed by the State Board of Health and approved by the Governor, and to be paid him in the same manner as the salaries of other State officers are paid; and such necessary expenses shall be allowed him as the Secretary of State shall audit, on the presentation of an itemized account, having vouchers annexed, together with the certificate of the Board.

SEC. 3. The Secretary shall hold his office so long as he shall faithfully discharge the duties thereof; but may be removed for just cause, at any regular meeting of the Board, by a majority of all the members voting therefor. He shall keep a record of the transactions of the Board; shall have the custody of all books, papers, documents, and other property belonging to the Board which may come to him as such Secretary, or be deposited in his office; shall communicate with other State Boards of Health, and with the local Boards of Health within this State; shall file and keep all reports received from such boards, and all correspondence of the office appertaining to the business of the Board. He shall perform all other duties prescribed in this act for the said Secretary, as directed by the State Board of Health.

SEC. 4. The State Board of Health shall supervise the health interests of the people of this State. They shall make careful inquiry in respect to the cause of disease, and especially of epidemics, and investigate the sources of mortality, and the effects of localities, employments, conditions, ingesta, habits, and surroundings, on the health of the people. They shall advise officers of the government or other State Boards in regard to the location, drainage, water supply, disposal of excreta, heating and ventilation of public buildings. They shall collect and preserve such information relating to forms of disease and deaths, as may be useful in the discharge of the duties of said Board. All health officers of local Boards of Health in the State shall transmit to said State Board of Health copies of their reports and publications, and such sanitary information as may be useful to the people of the State.

SEC. 5. The State Board of Health shall supervise the registration of marriages, births, and deaths, and also the registration of forms of disease prevalent in the State, and the Secretary of said Board shall superintend the registration of the vital statistics of the State. They

shall prepare the blank forms necessary for obtaining and preserving such records, and forward such of them to the health officers of local boards as may be required by physicians, assessors, local boards, and others whose duty it is to gather information in relation to the vital statistics of the State. The State Board of Health shall also prepare the forms and establish the rules by which permits for transporting the dead bodies of persons for burial beyond the county where the death occurs; and in all cases the said Board of Health shall require coupons to be attached to such permits, to be detached and preserved by every common carrier, or the person in charge of any vessel, railroad train or vehicle to which dead bodies shall be delivered for transportation. Any violation of these rules shall subject the offender to a fine of ten dollars for each offense.

SEC. 6. The State Board of Health shall, when they may think best so to do, appoint committees or engage suitable persons to render special sanitary service, to make or supervise practical and scientific investigations and examinations, requiring expert skill, and to prepare plans, and report thereto. And it is hereby made the duty of all officers and agents having the control, charge or custody of any public structure, work, ground or erection, or any plan, description, outline drawings, charts thereof or relating thereto, made, kept or controlled under any public authority, to permit and facilitate the examination and inspection by said Board ordered; and the members of said Board, and such other officer or person as may at any time be by said Board authorized, may, without fee or hindrance, enter, examine and survey all grounds, erections, vehicles, structures, apartments, buildings, and places. But the Legislature shall first determine the amount which shall be expended during the year for such special sanitary work, and the expenditures shall not exceed the amount thus determined and set apart for the year.

SEC. 7. The County Commissioners of the several counties of this State shall act as local Boards of Health for their respective counties. Each local board thus created shall elect a physician, preference being given to adepts in sanitary science, who shall be *ex officio* a member of said local board and the health officer of the same. He shall hold his office during the pleasure of the Board, but may be removed for just cause at any regular meeting of the same by a majority of the members voting therefor, on which motion he shall not vote. The local Boards of Health here created shall not supersede or in any way interfere with such boards established by municipal regulations in any of the counties of this State. But all local Boards of Health of this State, created by this act and existing by authority of municipal law, shall be governed by and perform such duties as may be required by the State Board of Health.

SEC. 8. The health officer of the several local Boards of Health

throughout the State, immediately after his election, shall notify the State Board of the fact, and give it his post-office address. He shall receive and distribute without delay, in the county for which he is appointed, all forms from the State Board of Health, to the rightful persons, and all returns from physicians, assessors, and local boards, to the said State Board of Health, and he shall perform such other duties as this act, his local board, or the State Board of Health may require of him. And he shall receive for his services such reasonable compensation as his board may allow, and the Judge of the Probate Court approve, to be paid out of the county treasury. And any failure of said health officer to perform the duties prescribed in this act shall subject him to a fine of ten dollars for each and every offense.

SEC. 9. Every person proposing to engage or to continue in the practice of medicine in this State shall, within thirty days after the organization of this State Board of Health, provided for by this act, present to the member or members of said Board of Health residing in his or her Congressional district, for verification and record, a diploma from a reputable and legally organized medical college, or an affidavit or other satisfactory evidence that the applicant is a graduate in medicine from such school, whereupon he shall receive from said member of the State Board of Health, a certificate stating the facts as to graduation, to which shall be added the name of the county in which the applicant is located, or proposes to locate, which certificate shall be recorded by the county clerk in a book to be provided by the County Commissioners, and kept in the office of the County Clerk, and this certificate shall be conclusive evidence of the right of the lawful owner of the same to practice medicine in and from the place designated in said certificate. And any person who is not a graduate of a reputable school in medicine, shall present himself before the State Board of Health at its annual meeting in January, and submit to such an elementary and medical examination by the said Board of Health as shall test the qualifications of the candidate as a practitioner of medicine, surgery, and obstetrics. Such examination shall embrace the general subjects of anatomy, physiology, chemistry, pathology, pathological anatomy, surgery and obstetrics, and may be in whole or in part in writing, and every candidate passing a satisfactory examination shall receive a certificate signed by the State Board of Health, which shall be recorded by the county clerk of the county in which he proposes to practice medicine, and shall be conclusive evidence of the rightful owner of said certificate to practice medicine in and from the place designated in said certificate. And without a certificate and record as provided for in this section of this act it shall not be lawful for any person to practice medicine or surgery in this State. Anyone who prescribes, or prescribes and furnishes medicines to the sick for a consideration, shall be held in the meaning of this act as engaged in the practice of medicine. This act shall not

apply to commissioned officers of the United States army or navy, or marine hospital service, nor shall it apply to physicians who received and filed certificates as provided for by an act to regulate the practice of medicine, passed the 28th day of February, 1879. After the expiration of one year from the passage of this act any person, not in possession of a certificate as provided for in this section of this act, shall only receive it on passing a satisfactory examination at one of the quarterly meetings of the Board of Health.

SEC. 10. Every person applying for a certificate, as provided for in this act, as a graduate, shall pay a fee of one dollar, and every person applying for a certificate of examination shall pay a fee of ten dollars, all of which shall be paid into the State treasury; and every person practicing or attempting to practice medicine in this State without such certificate, regularly filed with the clerk of the county in which he practices, shall upon conviction be fined not less than ten nor more than one hundred dollars for each and every offense, to which may be added imprisonment not to exceed ninety days. And every physician who may be convicted of using his profession for unlawful purposes, as in the production of criminal abortion, etc., shall forfeit his certificate and all right to practice medicine in this State. And any person filing or attempting to file as his own, a bogus diploma, or the diploma or certificate of another, or a forged affidavit of identification, shall be guilty of a felony, and upon conviction shall be subject to such fine or imprisonment as are made and provided by the statutes of this State for the crime of forgery, and forfeit all right to practice medicine in this State. And any itinerant physician, who shall by writing or printing, or by any other method, publicly profess to cure or treat diseases, injuries or deformities, shall pay to the State a special tax of one hundred dollars for each and every month, or fraction thereof, he shall so practice; and for every failure to pay such tax prior to engaging in said practice, he shall upon conviction be fined not less than one hundred dollars for each and every offense, or imprisonment for not less than ninety days in the county jail, or both, at the discretion of the court.

SEC. 11. It shall be the duty of every physician practicing his profession in the State of Kansas to keep a record of the deaths occurring in his practice, or that may come to his knowledge where death occurs without medical attendance, noting the form of the disease, and as far as possible the cause which produced it, and to report the same to the local Board of Health at the time and in the manner prescribed by the State Board of Health; and any failure to do so shall subject said physician to a fine of ten dollars for each and every offense.

SEC. 12. It shall be the duty of assessors of personal property in the several townships and wards of cities throughout the State annually to collect such information as to marriages, births and deaths as may be required by the State Board of Health, and report the same at the time

and in the manner prescribed by the said Board, to the local Board of Health; and any failure to do so shall subject the assessor to a fine of ten dollars for each and every offense.

SEC. 13. It shall be the duty of the State Board of Health, on or before the first Monday in January of each year, to make a report in writing to the Governor of the State upon the vital statistics and the sanitary condition and prospects of the State; and said report shall set forth the action of said Board, and of its officers and agents, and the names thereof, and also the names of physicians registered for the past year, and shall suggest any further legislative action deemed proper for the better protection of life and health, and may contain any useful information the said Board may desire to communicate. The annual report of said Board shall contain a detailed account of the money paid out by or on account of said Board, and a detailed statement of the manner of its expenditure during the past year, but the amounts sopaid out shall not aggregate a sum exceeding three thousand dollars in any year; and the sum of three thousand dollars is hereby appropriated for the purposes of this act. The report of the State Board of Health shall be published in form and manner as other State reports.

SEC. 14. It shall be the duty of every officer and person named in this act to faithfully discharge the duties assigned to him, and if any such officer or person shall neglect or fail in the discharge of said duties, where fines are not specifically stated he shall be declared guilty of a misdemeanor, and when convicted shall be fined in such sum as the court in its judgment may deem necessary to secure the proper enforcement of this act. All prosecutions under this act shall be in the ——— court, and conducted by the prosecuting attorney for the county in which the offense was committed, and all fines imposed and collected shall be paid into the county treasury.

SEC. 15. This act shall take effect and be in force from and after its passage. All acts or parts of acts in contravention of this act are hereby repealed.

TRANSACTIONS, 1883.

TOPEKA, KANSAS, May 15, 1883.

The Kansas Medical Society convened in its seventeenth annual session, at Library Hall, Topeka, Tuesday, May 15, 1883, at 3 P. M., and was called to order by the President, Dr. G. W. Haldeman.

On motion of Dr. Stormont, it was voted that the reading of the minutes of the last meeting be omitted, and they were adopted as printed.

On roll-call, the following members responded; Drs. Adams, Bell, Boyd, Buck, Cochrane, Chittenden, Craig, T. J. Conry, Daily, Fryer, Gibson, Guibor, Greene, Hepler, Haldeman, Hannawalt, J. B. Hibben, Hopkins, D. C. Jones, Lyman, J. P. Lewis, Longshore, Lane, C. P. Lee, Morse, Morris, Mottram, Mitchell, W. S. Mendenhall, Mayfield, Miner, Oliver, Picard, Phillips, Roberts, Ross, Righter, Stormont, Schenck, Sheldon, Woodward.

The following were appointed to fill vacancies on the Board of Censors: Drs. Hannawalt, Picard, Bell, Mendenhall, and Buck.

Dr. Cochrane moved that the appointment of a Nominating Committee be deferred till evening, but the motion was lost.

Dr. Fryer moved that we confer by telegram with the Missouri State Medical Society, now in session, to arrange the time of meeting so that they shall not conflict, and that delegates be appointed from each society. The motion prevailed, and Dr. Fryer was appointed to carry out the motion.

Dr. D. C. Jones presented the following resolutions, which on motion of Dr. Schenck were adopted:

Whereas, The library of the Surgeon General's office at Washington, and also the Army Medical Museum, are of the utmost importance to the whole medical profession of the United States; and whereas, the building in which these treasures of medical and surgical specimens are now placed is neither safe nor convenient;

And whereas, It being in the interest of every medical man in this country to see that the work of the library is continued by carefully made additions, and also that a safe and commodious fire-proof building be erected, in which also should be placed the Army Medical Museum and medical records; and that it is in the interest of medical and surgical science that the library and museum and medical records shall be kept together and under the present management and control: be it therefore

Resolved, That it is the opinion of the Kansas State Medical Society that medical and surgical science demand that Congress should appropriate a sufficient sum for the erection of a commodious and safe fire-proof building in Washington for the proper preservation of the Surgeon General's Library and the Army Medical Museum and the medical records, and that this association considers that the interests of science require that they shall be kept together and under their present management and control.

And be it further resolved, That it is the opinion of this association that at least ten thousand dollars should be annually appropriated by Congress for the purchase of new works for the Library, and that this sum should be independent of that for the Museum; and that it is the opinion of this Association that authority should be given by Congress to complete and print the Index Catalogue.

And it is further resolved, That the members of this Association use their influence with the members of Congress from this State, and urge upon them, by correspondence, the importance of the necessary legislation and appropriation in reference to these matters.

And be it further resolved, That a committee of five be appointed to bring this whole subject to the notice of the Congressional delegation from this State, and that this committee memorialize Congress at its next session, furnishing to each Senator and Representative a copy of these resolutions, and urging the passage of the necessary appropriation and law.

The Treasurer then submitted his annual report, as follows:

ATCHISON, KANSAS, May 15, 1883.

W. W. COCHRANE, Treasurer,
In account with the Kansas Medical Society.

To balance on hand for 1881	$354 91	
To dues for 1882	222 00	
		$576 91
By amount paid Secretary	$24 85	
By amount paid for hall	25 00	
By amount paid for Transactions	102 65	
By amount paid Committee on Law	37 20	
		189 70
Balance on hand		$387 21

On motion, the report was referred to the Auditing Committee.

The Secretary submitted his report, which was read, and placed on file.

LAWRENCE, KANSAS, May 15, 1883.

I have the honor to submit the following report for the year:

Four hundred copies of the Transactions were printed, at a cost of $102.65. Copies were sent to about thirty of the prominent newspapers of the State, as directed by the Society.

The thanks of the Society are due to Dr. Lanphear, of the Committee on Publication, who took entire charge of publishing the Transactions. The members, as usual, were negligent in sending in their papers to the committee, and the Transactions were consequently delayed.

Reduced rates to members have been received from the following railroads: The Kansas Division of the Union Pacific offered to sell round-trip tickets for one and one-fourth fare to members presenting certificates signed by the Secretary. These certificates were sent to most of the members living along the line of that road; the Atchison, Topeka & Santa Fé will return members for one cent per mile, on presenting certificates, which will be furnished by the Secretary; the Kansas City, Lawrence & Southern Kansas will return for one-fourth fare from Lawrence or Kansas City, on presenting certificates; the Missouri Pacific has paid no attention to my request for reduced rates, and the Kansas City, Fort Scott & Gulf refuse to grant the favor.

F. D. MORSE, *Secretary*.

The Secretary's bill for expenses of $18.50 was referred to the Auditing Committee.

The chair appointed the following as Auditing Committee: Drs. Hepler, Schenck, and Mottram.

Dr. Ross moved that the Secretary be allowed a salary of fifty dollars per year. Carried.

The Board of Censors reported in favor of admitting the following to membership: S. W. Day, M. D., McPherson, University of Nashville; W. J. Flocken, M. D., Halstead, University of New York; J. L. Porter, Paola, Rush Medical College; L. Y. Grubbs, M. D., Topeka, Ohio Medical College; Dr. E. E. Shaw, Osage City, Long Island College Hospital; L. R. White, M. D., Scandia, Harvard Medical College; A. Pearson, M. D., Topeka, Rush Medical College; O. C. McNary, M. D., Fort Leavenworth, Jefferson Medical College; C. C. Green, M. D., Winfield, Kansas, Keokuk Medical College; I. Kneckberger, Udall, Rush Medical College; L. H. Munn, M. D., Topeka, Bellevue Medical College.

Also the following for honorary membership: Drs. W. C. Tyree, C. W. Adams, J. H. Thompson, J. W. Elston, of Kansas City.

On motion, the report was adopted, and the Secretary ordered to cast the ballot in their favor.

The President then appointed the following Nominating Committee: Drs. Cochrane, Hepler, Hannawalt, Mendenhall, Oliver, Morris, Boyd, Bell, Fryer, Lee, Conry, Guibor, Hopkins, Schenck, Woodward, Jones, Greene, Ross, Cunkle.

The reports of the regular committees were called for, and Dr. Schenck read the report of Committee on the Practice of Medicine, which, after considerable discussion by Drs. Fryer, Bell, and Cochrane, was referred to the Committee on Publication.

Dr. Guibor moved that a committee of three be appointed to report a resolution in regard to the Code of Ethics of the American Medical Association. The motion prevailed, and the following were appointed as such committee: Drs. Guibor, Jones, and Schenck.

The Society then adjourned, to meet at 7:30 P. M.

EVENING SESSION.

The Society met, pursuant to adjournment; the President, Dr. Haldeman, in the chair.

On roll-call, the following additional members were present: Drs. Fulton, Cunkle, Lindsay, and Gish.

The Board of Censors reported favorably on the petition for membership of Drs. W. H. Mathias, of Williamsburg, St. Louis Medical College, and W. N. King, of Abilene, Jefferson Medical College. The report was adopted, and the ballot ordered in their favor.

The First Vice-President, Dr. W. S. Mendenhall, was called to the chair, and the President then delivered the annual address.

It was moved that the address be referred to the Committee on Publication, and if they decided to publish it a copy should be sent to each newspaper in the State. Carried.

Dr. J. A. Lane then delivered the public address, on the subject of Marriage and Divorce, which was referred to the Committee on Publication.

The question of the result of using bovine virus was presented for discussion by Dr. Stormont. Dr. Haldeman stated that he had found that the points of bovine virus were unreliable. Some produced bad sores, the majority did not take at all, and others formed a red strawberry spot that remained for some time. He had better results from the humanized virus. Dr. Fulton had good results from the use of bovine virus on ivory points, and was afraid of the communication of syphilis in the humanized. Dr. Buck reported good results from the humanized and unfavorable results from the bovine virus on quills. Dr. Elston reported bad results and many failures from the bovine. Dr. Miller thought much depended on the freshness of the virus, but was in favor of the bovine on quills.

Pending this discussion, the Society adjourned, to meet at 9 A. M.

MORNING SESSION.

TOPEKA, KAS., May 15, 1883.

The Society met pursuant to adjournment, and in the absence of the President, was called to order by First Vice-President Dr. W. S. Mendenhall.

Dr. Bell was appointed to fill a vacancy on the Committee on Necrology, and made a verbal report on the death of Dr. J. M. Carpenter. It was voted that the report be received, and that Dr. Bell be requested to reduce it to writing and refer it to the Committee on Publication.

In place of the report on Materia Medica, Dr. Fulton read a paper on Convulsions from Congenital Phimosis, which was referred, after discussion, to the Publishing Committee.

The report of the Nominating Committee was received by general consent, and read by the chairman, Dr. Cochrane, as follows:

OFFICERS FOR THE ENSUING YEAR.

President—Dr. D. W. Stormont, Topeka.

First Vice-President—Dr. W. S. Mendenhall, Winfield.

Second Vice-President—Dr. Deborah K. Longshore, Topeka.

Secretary—Dr. F. D. Morse, Lawrence.

Assistant Secretary—Dr. C. H. Guibor, Beloit.

Treasurer—Dr. W. W. Cochrane, Atchison.

Public Orator—Dr. J. B. Hibben, Topeka.

Board of Censors—Drs. Boyd, Hannawalt, Schenck, D. C. Jones, and Roberts.

REGULAR COMMITTEES.

Practice of Medicine—Drs. Bell, Roberts, Daily.
Surgery—Drs. Lyman, Guibor, Boyd.
Materia Medica—Drs. Hepler, Grass, Woodward.
Obstetrics—Drs. Morris, J. R. Baldwin, Lane.
Physiology—Drs. Dickman, Emerson, Munn.

SPECIAL COMMITTEES.

Diseases of Eye—Dr. Fryer.
Therapeutics—Dr. Sheldon.
Diphtheria—Dr. Greene.
Gynecology—Dr. Morse.
Nervous Diseases—Dr. Eastman.
Traumatic Aneurism—Dr. D. C. Jones.
Surgical Appliances—Dr. Guibor.
Diseases of Children—Drs. C. P. Lee and M. R. Mitchell.
Public Hygiene—Drs. Schenck, Stormont, Fuller, Mitchell, Leary.
Committee on Ethics for Three Years—Drs. Boyd, W. S. Mendenhall, Cochrane.

Delegates to the American Medical Association, 1884—Drs. Leary, Picard, Hepler, Boyd, D. C. Jones, Stormont, Morse, Fryer, Mottram, Roberts, W. S. Mendenhall, Hannawalt, Bell, Ross, Guibor, Haldeman, C. P. Lee, McCully, Cochrane, Blackwood, Neely, Oliver, Lane, T. J. Conry, Gray, V. G. Miller.

Place of next meeting—Wyandotte. Time—Third Tuesday in May, at 8 P. M., 1884.

The committee also recommended that hereafter the appointment of a Public Orator be abolished.

The report was adopted by a rising vote of 17 to 6, after motions to amend and lay on the table.

The proposed amendment to the constitution which was laid over for one year at the last meeting was called up by Dr. Guibor, and was as follows:

After the words, "annual meeting, which shall be at," introduce the words "the State capital," and omit the words, "such time and place as the Society may elect."

Article IV will then read: "One regular meeting shall be held each year, to be designated the annual meeting, which shall be held at the State capital. Special meetings may be held as provided by the by-laws."

Dr. Buck moved that the amendment be adopted. After several motions to amend and lay on the table were lost, the amendment was lost, by a vote of 17 to 20.

Pending the discussion of the above, Dr. Ross offered the following resolution, which was laid over for one year:

Resolved, That the constitution be so amended that the annual meetings of this Society shall be held at the State capital on alternate years.

Dr. Roberts presented some specimens of united fractures of ribs, and the body of a vertebra taken from an Indian grave. Also a pathological specimen of a malignant tumor of the superior maxillary bone.

Dr. Fryer read the report of the Special Committee on Diseases of the Eye, which after discussion was referred to the Committee on Publication.

The Auditing Committee made a report that they found the Treasurer's report correct, and also approved the bill of the Secretary and bill for the use of the hall, and recommended that they be paid, which was adopted. The report on the bill of Dr. Guibor was referred back to the committee for further consideration.

The Society then adjourned, to meet at 1:30 P. M.

AFTERNOON SESSION.

The Society met, pursuant to adjournment; Dr. Mendenhall in the chair.

The Board of Censors reported in favor of admitting to membership Dr. Frank Bailey, of Topeka. The report was adopted, and the ballot ordered in his favor.

The Committee on the Code of Ethics reported the following resolutions:

Resolved, That we reaffirm our adhesion to the Code of Ethics of the American Medical Association.

Resolved, That said Association be requested to refer a revision of the Code of Ethics to the Judicial Council, or to a special committee, to report at the annual meeting in 1884.

The resolutions were adopted, and the Secretary directed to send a copy to the Secretary of the American Medical Association.

The following resolution was offered by Dr. Schenck, and adopted:

Resolved, That the Committee on Publication be and are hereby instructed to collect and publish in a neat volume the Transactions of the Kansas Medical Society from its organization, and furnish a copy of the same to each member of the Society and to each of the public libraries of the State, provided there are funds enough in the treasury.

Dr. Cochrane asked that his paper on Vaccination be referred to the Committee on Publication, without reading. Granted.

Dr. Eastman then read a paper on Some Phases of Insanity, which was referred to the Committee on Publication.

The foll›wing telegram was received from the State Medical Society of Missouri:

JEFFERSON CITY, May 16, 1883.

To the Kansas State Medical Society: The Missouri State Medical Association, in session at Jefferson City, sends greeting. C. A. TODD, M. D., *Secretary.*

The Secretary was directed to respond.

It was voted that five delegates be appointed to the Missouri Medical Society for the coming year, and the following were appointed: Drs. J. H. Russell, C. H. Guibor, W. W. Cochrane, J. B. Hibben, C. P. Lee.

The following committees were appointed:

Committee on Necrology—Drs. McCully, Robertson, and Lamphear.

Committee on Army Medical Museum—Drs. D. C. Jones, Morse, Coleman, Guibor, and Dickman.

Committee on Publication—Drs. Schenck, Fryer, and Morse.

Committee of Arrangements—The members of the Society at Wyandotte.

Dr. J. P. Lewis presented a pathological specimen of a tumor removed from a child, and made a verbal report of the case.

Dr. Fryer, of the Committee on Medical Law, made a report, announcing the failure to secure the passage of such a law. Dr. Schenck made some remarks in regard to the proposed law. The report was received, and the committee discharged.

Dr. Lyman made a report on Surgical Appliances, and exhibited several new instruments

Dr. Fryer followed, with remarks on Aural Specula and the Otoscope.

Dr. Casier read the report on Theraputics, which was received, and referred.

Dr. Hannawalt read a report of a case of Obstructed Arterial Circulation, which was received, and referred to the Committee on Publication.

The Auditing Committed reported as follows:

The Auditing Committee, to whom was referred the account of Dr. Guibor, from the Examining Board, while they recommend its approval, reaffirm their position that the account should have first been audited by the Board; and recommend that the Board be instructed to prepare a full report, in order that the Society may know who are the alleged defaulters.

The report was then adopted.

It was voted that the Secretary be instructed to notify the members of the late Examining Board to meet and adjust their accounts with this Society, and that the Secretary of the Board be directed to forward the books and papers belonging to the Board to the Secretary of this Society.

The Society then adjourned, to meet in Wyandotte on the third Tuesday of May, 1884, at 3 P. M.

F. D. MORSE, M.D., *Secretary.*

TRANSACTIONS, 1884.

WYANDOTTE, KANSAS, May 20, 1884.

The eighteenth annual session of the Kansas State Medical Society convened in the Circuit Court room, Wyandotte, May 20, 1884, at 7:30 P. M.; the President, Dr. D. W. Stormont, in the chair.

On motion, the reading of the minutes of the last regular meeting was dispensed with, and they were approved as printed.

On roll-call, the following members responded: Drs. Buckmaster, Bryan, Blakely, Coons, Cochrane, Craig, Chase, Divelbiss, Dunn, Furley, Fryer, Fulton, Gephart, Guibor, Gray, Haller, Hannawalt, Haskins, Hill, Hopkins, D. C. Jones, Linley, Lanphear, Loose, Lane, Morse, Morris, Mottram, Mitchell, Murphy, Mendenhall, McCully, Maxon, Masterman, O'Brien, Phillips, Root, Stormont, Speck, Shean, Schenck, Trueworthy, Van Eman, Wassam.

The regular order of business was suspended, and Dr. B. E. Fryer presented a patient, on whom he had operated for epithelioma of the lower lid, and afterward performed a plastic operation to restore the loss.

Dr. Schenck was also permitted at this time to present the report of the Special Committee on State Medicine and Hygiene. The report was received, and referred to the Committee on Publication.

Drs. Morris and Lanphear were appointed to fill vacancies on the Board of Censors.

During the session the Board of Censors reported in favor of admitting the following to membership: Drs. N. H. Morrison, McPherson; J. C. Martin, J. L. B. Eager, G. H. Brown, Wyandotte; J. P. Scholes, Galena; J. H. Haldeman, Paola; N. F. Sawhill, Concordia; E. R. Lang, Ellsworth; J. T. Davis, Elk City; John Punton, Lawrence; J. H. Moore, Spring Hill; W. T. Hartshorn, Junction City; G. H. W. Whitesides, Ruth M. Wood, Leavenworth; Geo. L. Beers, Topeka.

The report was adopted, and the Secretary ordered to cast the ballot in their favor.

The following were appointed a Committee on Nomination: Drs. Cochrane, Hannawalt, Hill, Mendenhall, Blakely, Mottram, Wassam, Gephart, Divelbiss, Lane, Guibor, Masterman, Chase, Shaw, Furley, O'Brien, Root, Fulton, Haskins, and Trueworthy.

The Treasurer then submitted his report, as follows:

WYANDOTTE, KANSAS, May 20, 1884.

W. W. COCHRANE, Treasurer,
In account with Kansas State Medical Society.

Balance for 1882	$387 21	
Amount received, 1883	182 00	
		$569 21
Paid Dr. Schenck	$75 00	
Paid Dr. Morse	18 50	
Paid Dr. Fryer	3 70	
Paid Dr. Guibor	80 09	
Paid for hall rent	25 00	
Paid for Transactions	20 00	
		222 29
Balance of 1883		$346 92

The report was received, and referred to the Auditing Committee, consisting of Drs. Mendenhall, Craig, and Chase.

The report of the Secretary was then read and received, as follows:

I have the honor to submit the following report for the year.

The Committee on Publication having decided to collect the earlier Transactions of the Society into one volume, according to the instructions of the Society only the Secretary's minutes of the last year were printed, at a cost of $20. It was found on collecting all the previous Transactions that it would make a volume of about 1,000 pages, which would be too cumbersome and unwieldy for use. The committee therefore decided to publish the earlier numbers, enough to make a volume of about 500 pages, at a cost of about $500, and to publish the papers of 1883 with those of this year, or in a volume as the Society may direct. The volumes are now out, and will be delivered to the members in a few days. According to the instructions of the Society, I sent notices to the members of the late Examining Board to meet and adjust their accounts with this Society, and to the Secretary of the Board to turn over the books and papers belonging to the Board to the Secretary of this Society. I have not known if such a meeting has been held, but the papers and books have not been turned over to me.

I wish to call the attention of the Society to the necessity of procuring a new book of records. There is hardly room left in the old one to insert the records of the pres ent meeting.

Under the working of the railroad law, I have been unable to obtain reduced rates to the members of this meeting. F. D. MORSE, M. D., *Secretary.*

The reports of the regular committees were then called, but not one of them had a report.

Dr. Fryer, of special committee, read the report of the Committee on Disease of the Eye, which was received and referred.

The Society then adjourned, to meet at 8 A. M.

MORNING SESSION.

WYANDOTTE, KAS., May 21, 1884.

The Society met, pursuant to adjournment; the President, Dr. Stormont, in the chair.

The reading of the minutes was dispensed with.

Dr. Morse read the report of the Committee on Gynecology, which was received, and referred.

Dr. Fryer called the attention of the Society to a new book on Diseases of the Eye, by Dr. Alt, and recommended it to the members.

Dr. Guibor, of the Committee on Surgical Appliances, made a verbal report. The thanks of the Society were extended to Dr. Guibor, and the subjects were discussed at some length by Drs. McCully, Bryam, Fryer, Murphy, and Lane.

The Chair appointed Drs. Guibor and Mitchell to fill vacancies on the Auditing Committee.

Dr. Cochrane moved that when we adjourn, we adjourn to meet at Topeka, the third Tuesday of January, after the assembling of the Legislature, which was carried.

Dr. Cochrane read a paper on the Germ Theory of Disease, which was received, and referred.

Dr. Fryer then made some remarks on the treatment of a case of glaucoma.

Dr. A. L. Fulton read a paper entitled, "Are Baccilli the Cause or Product of Phthisis?" which was received, and referred after being discussed by Drs. Murphy, McCully, Cochrane, Fryer, Lane, Hannawalt and others.

On motion, the rules were suspended, and Dr. D. C. Jones offered the following resolution, which was adopted:

Whereas, We are informed that Surgeon B. E. Fryer, U. S. Army, for several years a distinguished member and former President of this Society, is about to be transferred, through orders from the War Department, to another field of duty; and

Whereas, We recognize in Dr. Fryer an accomplished, zealous and devoted physician, whose labors in the service of our association have been conspicuous and able, and whose uniform kindness and courtesy have endeared him to his fellow-members: therefore, be it

Resolved, That we deplore the circumstances which thus imperatively remove Dr. Fryer from our midst; and desire, in this public manner, to bear testimony to his excellent worth as a physician and gentleman, and to wish for his future continued health and prosperity wherever he may be called. He will always be held in affectionate esteem by the Kansas State Medical Society.

Resolved, That a certified copy of these resolutions be duly transmitted to Dr. Fryer.

The Society then adjourned, to meet at 1:30 P. M.

AFTERNOON SESSION.

The Society met, pursuant to adjournment, and the President and Vice-Presidents being absent, Dr. John P. Root was called to the chair.

Dr. Cochrane moved that a committee be appointed to draft a memorial and publish it in pamphlet form, to be presented to the State Legislature at its next session. The motion prevailed, and on motion the following committee was designated: Drs. Schenck, Root, Furley, and Guibor.

The Auditing Committee reported that they had examined the Treasurer's report, and found it correct; also the bill of the Secretary,

and recommended that it be allowed and paid, which report was adopted.

The report of the Committee on Necrology was then read, and referred to the Committee on Publication:

Dr. George W. Haldeman died at his residence in Paola, Kansas, March 14, 1884. Dr. Haldeman was born in Perry county, Pennsylvania, July 11, 1830. Was educated at Mechanicsburg, Pennsylvania, and graduated as a physician from Jefferson College in the class of 1854. His earlier practice was in Newville, Pennsylvania, where he was one of the original members of the Cumberland County Medical Society, and afterward was elected to the office of Vice-President of the State Medical Society. In the year 1870 he located at Paola, Kansas, where he continued the practice of his profession and won an enviable reputation as a physician and surgeon. He was a member of the Miami County and State Medical Societies, and had been elected to the office of and served as the President of each. He had been a member of the Board of Education for the city of Paola for a number of years, and was President of that honorable body at the time of his death. Dr. Haldeman was kind, dignified, and self-asserting. He was enthusiastic in his profession, and remarkable for his judgment and perception.

Dr. Guibor moved that a committee of three be appointed to prepare resolutions on the death of Dr. Haldeman. Carried, and Drs. Guibor, Porter and Cochrane were appointed as such committee.

The Nominating Committee then submitted their report, pending the consideration of which, Dr. Guibor called up the amendment to the Constitution, offered last year. Dr. Chase moved that it be adopted. Lost, by a rising vote of 15 yeas to 10 nays.

Dr. Murphy moved as an amendment to the report, that McPherson be selected as the place for the next annual meeting. Carried, and the report of the committee adopted as amended, as follows:

NOMINATIONS FOR 1885.

President—C. H. Guibor, M. D.

First Vice-President—H. O. Hannawalt, M. D.

Second Vice-President—H. D. Hill, M. D.

Treasurer—W. W. Cochrane, M. D.

Secretary—F. D. Morse, M. D.

Board of Censors—Drs. W. S. Mendenhall, W. W. Murphy, W. R. Steinmetz, A. M. Wassam, and J. A. Lane.

REGULAR COMMITTEES.

Practice of Medicine—

Surgery—Drs. C. V. Mottram, J. A. Lane.

Materia Medica—

Obstetrics—Drs. W. W. Cochrane, B. F. Masterman.

Physiology—Dr. J. H. Haldeman.

SPECIAL COMMITTEES.

Diseases of the Eye—Drs. B. E. Fryer, F. B. Tiffany, Thompson.

Therapeutics—Dr. W. W. Murphy.

Diphtheria—

Gynecology—Drs. Ruth M. Wood, A. L. Fuller.
Nervous Diseases—Dr. S. B. Divelbiss.
Diseases of Children—
Public Hygiene—Dr. W. L. Schenck.
Typhoid Fever—Dr. A. M. Wassam.
State Medicine—Drs. Schenck and Hannawalt.
Ethics for Three Years—Drs. Mottram, D. C. Jones, and M. O'Brien.
Committee to Prepare Pamphlet—Drs. Schenck, Root, Furley, Guibor.
Publication Committee—Drs. Schenck, Stormont, Morse.
Committee on Necrology—Drs. Haskins, Masterman, Daily.
Committee of Arrangements—Members at McPherson.
Delegates to American Medical Association—Drs. Jones, Furley, Fryer, Root, Mendenhall, Wassam, Hannawalt, Mottram, Chase, Guibor, O'Brien, Schenck, Stormont, Jacobs, Aikman, Mitchell, Robertson, Baldwin, Daily, Neely, Munn, Murphy, Shaw, Wood, Miller.

Place of next meeting—McPherson. Time—third Tuesday in May, 1885.

Dr. Fryer moved that a committee of five be appointed to arrange a programme for the proceedings next year, to enlist a larger attendance, secure a greater number of papers, and arrange for the discussion of the same. Carried; and Drs. Fryer, Guibor, Murphy, McCully, and Stormont were appointed such committee.

Dr. Hill offered the following resolution, which was adopted:

Resolved, That the accounts of the late Board of Examiners, appointed under the law of 1879, be audited as printed, and the Board be discharged from further consideration of the matter.

Dr. Guibor moved that at the adjourned meeting in January, some measures be adopted to prevail on the authorities to appoint an oculist to attend to the blind in the State Asylum. Carried.

On motion, the thanks of the Society were tendered to the President *pro tem.*, and to the Secretary.

The thanks of the Society were also tendered to the county of Wyandotte for the use of the court room, and a fee of six dollars ordered paid to the janitor.

Dr. Martin then presented a case of injury and caries of the foot, which was examined by the members and discussed by Drs. Martin, Bryan, Guibor, McCully, Miller, and others.

Dr. Shean presented a case of caries of the ilium, and read a report of the case, which was examined and discussed.

The Society then adjourned. F. D. MORSE, M.D., *Secretary*.

TRANSACTIONS, 1885.

ADJOURNED MEETING.

TOPEKA, KANSAS, January 20, 1885.

The Kansas State Medical Society met, pursuant to adjournment, at the Press Club Rooms, Topeka, January 20, 1885, at 3 P. M., and was called to order by the President, C. H. Guibor, M. D.

The reading of the minutes of the previous meeting was dispensed with, except so far as relating to the objects of this meeting.

Dr. Cochrane moved that the Board of Censors meet and receive applications for membership, and that the regular order of business be taken up. Carried.

All regular practitioners were invited to take part in the exercises of the session.

On roll-call, the following responded: Drs. Adams, Baldwin, Boyd, Byram, Cochrane, Chittenden, Daily, Fryer, Fulton, Guibor, Gray, Haldeman, Hannawalt, Hibben, Hopkins, Jacobs, Jones, Linn, Lewis, W. E. Lindsay, J. P. Lewis, Morse, Mottram, Miner, Mendenhall, Neely, O'Brien, Phillips, Root, Righter, Stormont, Shaw, Beers, and Punton.

Drs. Baldwin, J. L. Lewis, Hopkins, Shaw, and Boyd, were appointed to fill vacancies in the Board of Censors.

Under a suspension of the rules, Dr. Cochrane moved that a committee of three be appointed to visit the physicians who are members of the Legislature and the Committee on Health in the Senate and House, and invite them to meet with the Society in the evening session. The motion prevailed, and Drs. Neely, Jacobs and Stormont were appointed this committee.

On motion of Dr. Root, a recess of five minutes was taken; after which Dr. Root moved that those who had papers to present before the Eastern District Society be invited to read them before this Society and take part in its proceedings. Carried.

Dr. Fulton asked the Society to decide whether he still retained his membership, since he had removed to another State.

Dr. Cochrane moved that Drs. Fryer and Fulton be considered active members of this Society. Carried.

Dr. Root moved as an amendment, that simple removal from the State does not necessitate a loss of active membership. The motion prevailed.

The committee appointed to visit the physicians of the Legislature reported that they had performed that duty. The report was received and the committee discharged.

During the session, the Board of Censors reported in favor of admitting the following to membership: Drs. J. E. Hawley, Burr Oak; A. B. Peters, Mankato; D. B. Moore, Jamestown; J. H. Whitford, E. J. Darness, Stockton; W. W. Walter, Leavenworth; R. B. Ray, Wilsey; C. A. McGuire, Topeka; T. J. Sweezy, Osage; H. H. Miller, Rossville; A. N. Perkins, Fredonia; J. J. Wright, Emporia; F. D. Sanford, Cherryvale; A. Puderbaugh, Osawkee; W. A. Phillips, Laura M. Pratt, Salina; L. S. Warren, Cherryvale; A. B. Woolverton, J. M. Jamison, H. F. Pratt, of Topeka.

The report was adopted, and the Secretary directed to cast the ballot in their favor.

Drs. C. W. Adams, J. H. Duncan and N. A. Drake, of Kansas City, Missouri, were elected honorary members.

The Society then adjourned, to meet at 7:30 P. M.

EVENING SESSION.

The Society met, pursuant to adjournment; the President, Dr. Guibor, in the chair.

Dr. Tenney, Superintendent of the Insane Asylum, extended an invitation to the members of the Society to visit that institution during their stay in the city.

The report of the Special Committee on Memorial was read by Dr. Schenck, as follows:

Your committee to whom was assigned the duty of memorializing the State Legislature upon the subject of State Medicine, beg leave to report their approval of the bill and memorial herewith presented; and that at their request, the Governor, in his biennial message, kindly commended the subject to the considerate attention of the Legislature.

W. L. SCHENCK,
C. H. GUIBOR,
J. P. ROOT,
Committee.

The memorial was then read by Dr. Schenck. The President then explained the reasons why the memorial was drawn up in this manner, and invited a full discussion.

On request of Dr. Neely, the bill for a medical law was read.

On motion, the report of the committee was accepted.

Dr. Stormont moved that the bill be adopted, and, taken as a basis, be referred back to this committee, with instructions to perfect the bill and confer with committees from the other societies, and remain and see that the bill be passed; and if any of the committee could not remain, that he be directed to appoint a substitute.

After a discussion by Drs. Neely, Shean, Fryer, Cochrane, the motion prevailed; yeas 35, nays 4.

On motion, Judge Humphrey was added to that committee, as a judicial member.

The Society then adjourned, to meet at 9 A. M.

MORNING SESSION.

TOPEKA, KAS., January 21, 1885.

The Society met, according to adjournment; the President, Dr. Guibor, in the chair.

The bill of $20 for printing the memorial to the Legislature was presented, and ordered paid.

The following amendment to the Constitution was presented by Dr. Terwilliger, and laid over for one year:

Resolved, That article 2 of the Constitution be so amended as to read: The members of this Society shall consist of such regular practitioners of medicine, including the medical officers of the Army and Navy of the United States residing in this State, as may be elected and qualified as directed by the by-laws.

Dr. Fryer moved that the sum of $200 be appropriated for the expense of the Committee on Medical Law. Carried.

Dr. Duncan then read a paper on the Treatment of Eczema Rubrum, which was received, and referred to the Committee on Publication, after being discussed by Drs. Neely, Fryer and others.

Dr. Thompson read a paper on the "Pupil in Disease," which was received, and referred.

A communication from Dr. Hartshorne on the Medical Law was read, and referred to that committee.

Dr. Neely moved that each member be a committee of one to interview his own Senator and Representative in reference to the law. Carried.

Dr. Fryer reported a case and read a paper on Inflammation of the Mastoid Process, which was received, and referred.

Dr. Fulton moved that $20, or as much thereof as is necessary, be appropriated to pay the expenses of this meeting. Carried.

The Society then adjourned, to meet at 2 P. M.

AFTERNOON SESSION.

The Society met, pursuant to adjournment, at 2 P. M.; Vice-President Dr. Hannawalt in the chair.

Dr. Halley's paper was read by title, and referred to the Publishing Committee.

Dr. Drake read a paper on Laparotomy in Chronic Peritonitis, which was received and referred, after discussion by Drs. Burdick, Sweezy, and Lewis.

Dr. Hannawalt described a case of Ulceration of the Foot and Cheek of a peculiar character.

Dr. Mendenhall described a case of Omental Hernia operated on under chloroform, in which the patient died in twenty-four hours from acute peritonitis.

Dr. Schenck reported progress on the medical bill; that they had been unable to effect any agreement with the other societies, and asked further instructions. They were ordered to use their discretion, and present the adopted bill to the Legislature and press its enactment at once.

On motion, the following resolution was adopted, and the Secretary ordered to send a certified copy to the Governor:

Resolved, That this Society tender to Gov. John A. Martin a unanimous vote of thanks for his suggestions to the Legislature in reference to the enactment of a law providing for a State Board of Health and the regulation of the practice of medicine.

The Society then adjourned, to meet at McPherson the third Tuesday in May, 1885. F. D. MORSE, M. D., *Secretary*.

NINETEENTH ANNUAL SESSION.

MCPHERSON, KANSAS, May 19, 1885.

The nineteenth annual meeting of the Kansas State Medical Society convened in the Opera House, McPherson, Tuesday, May 19, 1885, at 11 A. M., and was called to order by the President, Dr. C. H. Guibor.

On motion, the reading of the minutes of the previous meeting was dispensed with, and they were approved as printed.

The following reported on roll-call:. Drs. Cochrane, Hannawalt, Minney, Mendenhall, Morse, Lang, Coons, Conry, Day, Murphy, Guibor, Fryer, Punton, Phillips, O'Brien, Stormont, Schenck, Shaw.

Drs. Coons, Minney and Shaw were appointed to fill vacancies on the Board of Censors.

Dr. Schenck moved that none be elected to membership unless they present their application to the Board of Censors in person. The motion was laid on the table.

The Society then adjourned, to meet at 2 P. M.

AFTERNOON SESSION.

The Society met, pursuant to adjournment; the President, Dr. Guibor, in the chair.

On roll-call, the following additional members were present: Drs. Wood, Conry, Morrison, Haskins, and Buck.

The following were appointed Nominating Committee: Drs. Cochrane, Minney, Mendenhall, Morse, Lang, Coons, T. J. Conry, Guibor, W. A. Phillips, Fryer, Stormont, Schenck, Wood, and Haskins.

The Secretary read a communication from the Nebraska State Medical Society, appointing Prof. Merriam as the representative of the Kan-

sas Medical Society in that society. On motion, the appointment was confirmed, and the Secretary ordered to send the necessary credentials,

The Treasurer then read his report, as follows:

ATCHISON, May 17, 1885.

W. W. COCHRANE, Treasurer,
In account with Kansas State Medical Society.

To dues received for 1884	$177 00	
To balance cash from 1883	346 92	
		$523 92
By cash paid F. D. Morse	$11 75	
By cash paid for hall rent	6 00	
By cash paid for book of Transactions	476 00	
		493 75
Balance on hand, 1884		$30 17

On motion, the report was received, and referred to the Auditing Committee, consisting of Drs. Stormont, Phillips, and Haskins.

Senator Kelly, of McPherson, was then introduced by the President, who delivered an address of welcome on behalf of the city and county of McPherson.

Dr. Stormont moved that a vote of thanks be extended to Senator Kelley for his eloquent address and for his efforts in behalf of the Society's bill in the last Legislature. Carried.

During the session the Board of Censors reported in favor of admitting to membership the following: Drs. D. S. O'Brien, Beloit; G. E. Berquest, Lindsborg; J. W. Bacon, McPherson; J. H. Briarly, Delphos; T. Bartl, Chanute; A. H. Cordier, Windom; R. S. Bragg, Little River; A. W. Adams, Chase; W. S. Harvey, Wichita; G. D. Wilbur, M. B. Smith, E. L. Ebnother, McPherson; J. W. Crowley, Salina; J. S. Chase, Lyons; E. A. Scammon, Columbus.

The report was adopted, and the Secretary ordered to cast the ballot in their favor.

Dr. Schenck made a verbal report of the Committee on Medical Law.

Reports of the regular committees were called for, and Dr. Cochrane read the report of the Committee on Obstetrics, which was received, and after an animated discussion referred to the Committe on Publication.

Dr. Fryer read the report of the Special Committee on Diseases of the Eye, especially in the use of cocaine hydro-chlorate. The report was received, and referred to the Committee on Publication, after discussion by Drs. Murphy, Minney, Halley, and Ellston.

The Society then adjourned, to meet at 7:30 P. M.

EVENING SESSION.

The Society was called to order by the President, at 7:30 P. M.

The report of the Auditing Committee, approving the Treasurer's report, was read and adopted.

The following bills were then presented:

W. W. Cochrane, postage and exchange	$20 00
F. D. Morse, postage, printing, &c	51 00
H. S. Roberts, services on Committee on Law	14 30
W. L. Schenck, " " "	20 00
C. H. Guibor, " " "	59 80

On motion, they were referred to an auditing committee, consisting of Drs. Hannawalt, Phillips, and Buck.

Dr. Murphy then read a report on Therapeutics, making as a special subject the Muriate of Cocaine, which was received, and referred to the Publishing Committee, after a general discussion.

From the Committee on Gynecology, Dr. Ruth M. Wood made a verbal report on the use of Electro-Massage.

The Auditing Committee reported in favor of allowing the bills presented, and directed an order to be drawn for their payment, which was adopted.

Dr. Fryer moved that an assessment of $2 per member be made, in order to complete the second volume of Transactions up to the end of this session. The motion was adopted.

By vote, the Secretary was directed to sell the first volume of the Transactions to new members at $1.25 per volume.

Dr. Stormont offered the following resolution, which was adopted:

Resolved, That a committee of three be appointed to revise our Constitution and By-Laws, to report at the next regular meeting, and that the Secretary be one of said committee.

Dr. Fulton's Report on Gynecology was then read by Dr. Halley, in the absence of the author, and was received, and after discussion was referred.

The Society then adjourned, to meet at 9 A. M.

MORNING SESSION.

McPherson, Kas., May 20, 1885.

The Society was called to order at 9 A. M., by the Vice-President, Dr. Hannawalt.

Dr. Schenck read a report on Membranous Croup, which was received, and referred to the Committee on Publication, after a general discussion by a large number of those present.

A recess of ten minutes was then taken, to enable the members to witness an operation for strabismus by Dr. Fryer, using the muriate of cocaine as an anæsthetic.

After the Society was called to order, Dr. Fryer made some remarks regarding the operation, and also reported a case of tumor of the orbit, removed by him, in the center of which was a bit of wood.

Dr. J. H. Hannaford presented a specimen of a caudal appendage, which he had removed from a child four years old.

Dr. Guibor reported a case of supposed Strangulated Hernia, which was received, and referred after discussion.

The Society then adjourned, to meet at 1 P. M.

AFTERNOON SESSION.

The Society was called to order by the President, Dr. Guibor.

Dr. Cochrane moved that when we adjourn we adjourn to meet in Topeka, in January, 1886, during the session of the Legislature, notice of time to be given by the Secretary. Carried.

The President in place of his annual address made a number of suggestions, advising against the establishment of a medical school in the State, or a medical department in the University; urging the members to take the *Journal of the American Medical Association;* advising a revision of the Constitution and By-Laws of the Society; and explaining the efforts of the Committee on a Medical Law at the last meeting of the Legislature.

Dr. Schenck offered the following, which was adopted:

Resolved, That this Society, laboring as it is in the interest of health and longevity of the people of the State, tenders its thanks to Mr. Kelly and other members of the State Legislature who labored for the passage of our health bill.

Dr. Stormont made some remarks on the public health bill.

The following committees were appointed.

Committee on Publication—Drs. Schenck, Stormont, Morse.

Committee to Arrange a Program for Next Meeting—Drs. Morse, Fryer, Hannawalt.

Committee on Necrology—Drs. Haskins, Masterman, Dailey.

Committee of Arrangements—Members of the Society residing at Atchison.

The Committee on Nominations reported the following:

OFFICERS FOR THE ENSUING YEAR.

President—H. O. Hannawalt, M. D.

First Vice-President—C. V. Mottram, M. D.

Second Vice-President—S. W. Day, M. D.

Secretary—F. D. Morse, M. D.

Treasurer—W. W. Cochrane, M. D.

Board of Censors—Drs. Lanphear, Lane, Roberts, Switzer, and W. S. Mendenhall.

REGULAR COMMITTEES.

Practice of Medicine—Drs. Roberts, Schenck.

Practice of Surgery—Drs. Lane, Guibor, Mottram.

Practice of Obstetrics—Drs. Longshore, Stormont, Wood.

Materia Medica—Drs. Thompson and Ellston, of Kansas City.

Physiology—Dr. W. A. Phillips.

SPECIAL COMMITTEES.

Diphtheria—George Emerson.
Gynecology—R. M. Wood.
Typhoid Fever—A. M. Wassam.
Carbuncle—L. J. Lyman.
Public Hygiene—W. L. Schenck.
Diseases of Eye and Ear—Drs. Fryer and Minney.
Diseases of Children—J. W. Bacon.
State Medicine—Drs. Schenck and Stormont.
Epilepsy—J. Punton.
Hip-Joint Diseses—J. W. Ellston.
Cremation—A. H. Lanphear.
Committee on Ethics for Three Years—Drs. Stormont, Coons, and Dickman.

Delegates to the American Medical Association—Drs. Morris, Emerson, W. A. Phillips, Stormont, Cochrane, Guibor, Wood, W. S. Mendenhall, Minney, Morse, Mottram, T. J. Conry, Dickman, Hannawalt, A. A. Conry, Schenck, Baldwin, Aikman, Boyd, Shaw, Buck, Mitchell, Holland, McCully.

Place of meeting—Atchison. Time—third Tuesday in May.

On motion, the report was adopted and the above officers elected.

Dr. Halley read a report on Hip-Joint Diseases and Injuries, which was received, and referred after being discussed by Drs. Murphy, Fryer, and Ellston.

Dr. Cordier read a paper on Bi-Chloride of Mercury as an antiseptic, which was referred.

Dr. Schenck moved that each member see his Senator and Representative and secure their support in perfecting the medical and sanitary law. Carried.

Dr. Minney read a report of a case of removal of a foreign body from the ear, which was received, and referred to the Committee on Publication, after being discussed by Drs. Schenck, Fryer, and Halley.

The following was adopted:

Resolved, That Drs. Cochrane, W. S. Mendenhall and D. C. Jones be appointed a committee of three to draft a bill to regulate the practice of medicine in the State, and to take such action as they may deem necessary to secure its passage by the next Legislature.

Dr. Smith reported a case of Hydrocephalus, and presented the patient, asking that a committee be appointed to examine it. Drs. Stormont, Fryer, Schenck and Halley were appointed, and after examining, reported that they found the fistulous openings not connected with the brain, that there has been hydrocephalus but now was to be regarded as retarded development, with a favorable prognosis.

The following was adopted:

Resolved, That the thanks of this Society be tendered to the physicians of McPherson for furnishing the hall for our meeting and to the citizens for their hospitality.

A vote of thanks was extended to Dr. Guibor and the Committee on the Medical Bill.

The Society then adjourned, to meet in Topeka, January, 1886, at the call of the Secretary. F. D. Morse, M. D., *Secretary.*

TRANSACTIONS, 1886.

ADJOURNED MEETING.

TOPEKA, KANSAS, January 11, 1886.

The Society met pursuant to adjournment, at Topeka, Kansas, January 11, 1886; the President, H. O. Hannawalt, M. D., in the chair.

Dr. W. B. Gibson was appointed Secretary *pro tem.*

On roll-call, the following members were present: Drs. Baldwin, Beers, Cochrane, Fryer, Gibson, Hepler, Guibor, D. C. Jones, Lewis, Lindsay, Longshore, Murphy, Maggard, Minney, Punton, Stormont, Tefft, Trueworthy, and Ward.

The following were appointed to fill vacancies in the Board of Censors: Drs. Murphy, Jones, Lewis, Punton, Minney.

The Board of Censors reported favorably on the admission of the following to membership: Drs. R. E. McVey, Reid Alexander, W. H. Birchmore, of Topeka; Frank Finney, Lawrence; F. F. Greene, Olathe; and Drs. E. Lanphear and J. P. Knoche, of Kansas City, Mo., for honorary membership.

On motion the report was adopted, and the Secretary ordered to cast the ballot in their favor.

Dr. Cochrane, of the Committee on Medical Law, presented a new bill to regulate the practice of medicine.

A lengthy discussion of this bill and of the present act creating the Board of Health followed. Dr. Stormont stated the measures which had been introduced into the Legislature to perfect the present act.

The bill was finally referred back to the Committee on Medical Law, to be reported at the regular meeting in May.

The Society then adjourned, to meet at 7:30 P. M.

EVENING SESSION.

The Society met pursuant to adjournment, Dr. Hannawalt in the chair.

On motion, the Eastern District Medical Society was invited to unite with this Society, and those having papers to present, to read them before this meeting.

Dr. J. P. Knoche, of Kansas City, Mo., read a paper on Syphilitic Eczema, which, after discussion, was referred to the Committee on Publication.

Dr. Fryer read a paper on Enucleation of Irritating Eye after the commencement of Ophthalmia. After a discussion, the paper was referred to the Publishing Committee.

Dr. Halley then made some remarks on Hemorrhoids, giving the history and treatment, which was followed by a general discussion.

Dr. Frank Finney announced the recent death of Dr. A. Fuller.

On motion, a special committee was appointed to prepare resolutions on the death of Dr. Fuller, consisting of Drs. Morse, Fryer, and Cochrane.

Dr. Hepler offered resolutions, which were adopted.

Dr. Minney announced the death of Dr. Protherow.

Dr. Cochrane made a verbal report of some medical points of interest that had been brought out in the recent trial in Atchison in regard to the possibility of death from chloroform inhalation, which elicited a lively discussion.

The Secretary read a draft of the programme prepared for the next annual meeting.

The Society then adjourned. F. D. MORSE, M. D., *Secretary.*

TWENTIETH ANNUAL SESSION.

ATCHISON, KANSAS, May 18, 1886.

The twentieth annual session of the Kansas Medical Society convened at Atchison, Kansas, May 18, 1886, at 7:30 P. M.; and was called to order by the President, Dr. H. O. Hannawalt.

The reading of the minutes of the last meeting was dispensed with, and they were approved as printed.

On roll-call, the following responded: Drs. Cochrane, Gough, Campbell, Hudson, Lanphear, Linley, Stines, Hannawalt, Blakely, Lewis, Finney, Morse, Cunkle, Bell, Peters, Mitchell, Minney, Punton, Taylor, Tenney, Fryer, Clutter, Dailey, Steel, Davis, Bartl, Hopkins, Schenck, and Shaw.

Drs. Minney, Bell, Dailey and Shaw were appointed to fill the vacancies on the Board of Censors.

The President's address was then read by Dr. Hannawalt.

On motion, it was received, and the various recommendations were referred to the proper committees.

The Board of Censors reported in favor of admitting the following to membership: Drs. A. B. and A. W. Sellards, of Scranton; L. Horner, Lawrence; C. A. Bourk, Brantford; L. G. Rhodes, Alton; Dr. Atchison,

of Olathe; and M. A. Brawley, of Frankfort. The report was received, and the Secretary ordered to cast the ballot in their favor.

Dr. W. W. Cochrane, the Treasurer, submitted the following report:

ATCHISON, May 18, 1886.

W. W. COCHRANE, Treasurer,
In account with Kansas State Medical Society.

To balance on hand, 1884	$30 17	
To dues for 1885	217 00	
To assessment	6 00	
		$253 17
By amount paid F. D. Morse	$51 00	
By amount paid W. L. Schenck	20 00	
By amount paid D. W. Stormont	14 30	
By amount paid H. S. Roberts	14 30	
By amount paid T. D. Thacher	20 00	
By amount paid C. H. Guibor	59 80	
By amount paid W. W. Cochrane	20 00	
By amount paid for Transactions	24 00	
		223 40
Balance on hand		$29 77

The report was received, and referred to the Auditing Committee, consisting of Drs. Mitchell, Cunkle, and Taylor.

The Board of Censors reported in favor of admitting the following to membership: Drs. E. T. Shelly, Atchison; W. A. Williamson, L. F. Wentworth, Topeka; W. R. Campbell, Troy; D. C. Tyler, Clifton. The report was adopted, and the Secretary ordered to cast ballot in their favor.

The Secretary read a postal card from Dr. Early, respectfully resigning as a member of this Society. On motion, the request was referred to the Secretary and Treasurer, with power to act.

Dr. Schenck then offered the following resolution, which was adopted unanimously:

Resolved, That the Kansas State Medical Society approves the action of the American Medical Association in inviting the International Medical Association to meet at Washington, D. C., in 1887.

Resolved, That we cordially indorse the effort of the International Medical Association to make the invitation and reception national, and we request the representatives of this State in the National Congress to vote an appropriation to aid in entertaining members from foreign countries.

Dr. Fryer reported verbally on a case of transplanting skin grafts after the removal of an epithelioma, which report was discussed by Drs. Minney, Schenck, Campbell, and Davis.

The Auditing Committee reported that they found the report of the Treasurer correct. The report of the Committee was adopted.

The Secretary presented a bill for expenses, which was referred to the Auditing Committee.

Dr. Schenck then read a paper on the Etiology and Pathology of Periodic Fevers, which was received, and referred to the Committee on Publication, after a lengthy discussion by Drs. Fryer, Damour, Bell, Ellston, Campbell, and Schenck.

The Society then adjourned, to meet at 9 o'clock A. M.

MORNING SESSION.

ATCHISON, KAS., May 19, 1886.

The Society met, pursuant to adjournment; the President, Dr. Hannawalt, in the chair.

On roll-call, the following members responded, in addition to those of the previous meeting: Drs. Stivers, Mendenhall, Gish, Puderbaugh, Buck, Damour, Bragg, Haskins, Berquist, Cordier, Bryan, Smolt, White, and Jones.

Dr. Minney proposed the name of Dr. H. M. Lane, of Brazil, S. A., as an honorary member of the Society, and he was duly elected.

The President appointed the following, as a Nominating Committee: Drs. Linley, Blakely, Finney, Cunkle, Bell, Peters, Buck, Haskins, Bryan, Smolt, White, Bragg, Rhodes, Clutter, Daily, Davis, Bartt, Shaw, Hopkins, Mitchell, Tenney, Mendenhall, Puderbaugh, and Tyler.

The Auditing Committee reported the bill of the Secretary correct. The report was adopted, and the bill ordered paid.

Dr. Abby M. Adams read the report of the Committee on Obstetrics, and reported a case, which was received, and referred to the Committee on Publication, after an interesting discussion by Drs. Fryer, Bell, Bryan, Haskins, Jones, Schenck, Taylor, Ellston, and Davis.

The Board of Censors reported in favor of admitting to membership Drs. J. F. R. Brubaker, Clifton; J. N. Hatfield, Osawkee; R. Dickey, A. J. Best, Centralia.

The regular Committees on Surgery, Practice of Medicine and Materia Medica, had no reports to make. The Secretary read a telegram from Dr. W. A. Phillips, chairman of the Committee on Physiology, stating that owing to sickness in his family he was unable to be present, and asking to be continued to the next session.

Dr. H. M. Lane read a paper on Yellow Fever, giving a full account of Dr. Frere's method of preventing yellow fever by vaccination. After a discussion by Drs. Cochrane, Schenck, and Bell, the thanks of the Society were extended to Dr. Lane for his paper.

It was voted that hereafter in the discussions, no member should speak more than once, and the time of each member be limited to ten minutes.

Dr. Schenck offered the following resolution, which was adopted:

Resolved, That the Kansas State Medical Society approves the bill now before Congress (House bill No. 5542) "providing for the appointment of a commission to investigate the truth of alleged discoveries of the specific cause of yellow fever, and of a method of preventing that disease, and to obtain all information possible as to the cause and prevention of that disease," and respectfully requests the representatives of this State in the National Congress to favor the passage of the bill.

Drs. Geiger, Hedden and Hart, of St. Joseph, and Dr. J. D. Griffith, of Kansas City, Mo., were elected honorary members of the Society.

The Society then adjourned, to meet at 2 P. M.

AFTERNOON SESSION.

The Society met, pursuant to adjournment, and was called to order by the President, Dr. Hannawalt.

The Board of Censors reported in favor of admitting to membership: Drs. A. M. Adams, Leavenworth; C. H. Linley, J. A. G. Sample, Atchison. The report was adopted, and the ballot ordered in their favor.

The Committee on Revising the Constitution and By-Laws submitted a report, (see p. 418,) which report was, according to the rules, laid over for one year.

The Committee on Medical Law reported in favor of the bill sent to the Society by the American Medical Society, with some changes. The report was referred to a committee of three residents of Topeka, with power to act and press its passage.

Dr. Fryer read a paper on Diseases of the Eye, which was received, and referred to the Committee on Publication, after discussion by Drs. Minney and Tyree.

Dr. Minney read a report on Diseases of the Ear, especially acute catarrh of middle ear. The report was received, and referred, after discussion by Drs. Thompson, Fryer, Tyree, Tiffany, and Mitchell.

Dr. Tenney read a paper on the Prevention of Insanity, which was received, and referred to the Publishing Committee.

Dr. Lanphear read a paper on the Genesis of Life.

The Society then adjourned, to meet at 7:30 P. M.

EVENING SESSION.

The Society met, pursuant to adjournment; the President in the chair. The Nominating Committee submitted the following report:

OFFICERS FOR THE ENSUING YEAR.

President—F. D. Morse, M. D., Lawrence.

First Vice-President—L. A. Buck, M. D., Peabody.

Second Vice-President—J. Bell, M. D., Olathe.

Secretary—W. S. Mendenhall, M. D., Winfield.

Treasurer—W. W. Cochrane, M. D., Atchison.

Censors—Drs. R. Morris, M. R. Mitchell, A. B. Peters, W. W. Murphy, J. A. Coons.

Delegates to the American Medical Association—Drs. A. B. Peters, E. B. Shaw, L. J. Cunkle, M. R. Mitchell, J. T. Davis, D. W. Stormont, W. L. Schenck, A. H. Codier, W. S. Mendenhall, W. H. Clutter, Thomas Bartt, L. A. Buck, J. D. Bryan, L. J. Taylor, J. A. Coons, J. Bell, G. Emerson, F. Finney, J. B. Rhodes, J. E. Minney, C. V. Mottram, W. S. Lindsay, W. A. McCully, J. H. Haldeman.

REGULAR COMMITTEES.

Practice of Medicine—J. D. Bryan.
Practice of Surgery—D. C. Jones, L. D. Jacobs, C. F. Smolt.
Obstetrics—N. S. P. Robertson, J. Bell, M. R. Mitchell.
Materia Medica—W. L. Schenck, A. H. Lanphear.
Physiology—W. A. Phillips.

SPECIAL COMMITTEES.

Gynecology—S. S. Todd.
Diphtheria—G. Emerson.
Albumenuria—E. B. Shaw.
Infant Feeding—A. B. Peters, R. M. Wood.
Public Hygiene—J. W. Redden, and McClintock.
Diseases of Eye and Ear—Drs. Minney, Fryer, and Thompson.
Nasal Catarrh and Hay Fever—Drs. Murphy and Curtis.
Hemorrhoids—Drs. Finney and Haller.
Diseases of Urethra—Dr. M. B. Ward.
State Medicine—Drs. Stormont and Cochrane.
Committee on Ethics, Three Years—Drs. J. M. Dailey, Horner, and Cochrane.
Committee on Necrology—Dr. Lane.
Committee on Arrangements—Members residing in Winfield.
Place of meeting—Winfield.
Time of meeting—First Tuesday in May, 1887.

The committee suggested that there be a special committee of three to report to the Society at an early hour the propriety and advisability of securing some suitable place for a library for this Society, and that this committee consist of Drs. Hannawalt, Mitchell, and Morse.

The report was adopted, and the Secretary was authorized to give certificates to any member who might wish to attend the American Medical Association.

It was voted that Dr. Ellston be requested to prepare a paper on Syphilis for the next meeting.

Dr. Punton read a report on Epilepsy, which was received and referred, after discussion by Drs. Tenney, Finney, Horner, Cordier, Ellston, Bryan, and Hannawalt.

Bill for use of hall, $12.50, was allowed. The Secretary was authorized to purchase a record book for the Society.

The President appointed Drs. Jones, Minney and Mitchell a Committee on Medical Law.

Dr. Lanphear read a report on Cremation; which was received, and referred.

Dr. Ellston's paper on Hip-Joint Diseases was read by title, and referred.

Dr. Todd made some remarks on the treatment of cholera.

The Society then adjourned, to meet in Winfield, Kansas, the first Tuesday in May, 1887. W. S. MENDENHALL, *Secretary.*

CONSTITUTION.

(Reported by Committee on Revision.)

ARTICLE I.—*Name.*

SECTION 1. The name of this Society shall be THE KANSAS STATE MEDICAL SOCIETY.

ARTICLE II.—*Objects.*

SECTION 1. The objects of this Society shall be the advancement of medical knowledge, the elevation of the medical profession, and the promotion of all measures adapted to the relief of suffering, the improvement of the health, and the protection of the lives of the community.

ARTICLE III.—*Members.*

SECTION 1. The Society shall consist of delegates, permanent members and honorary members.

SEC. 2. The delegates shall receive their appointment from organized county or district societies, in the rates of one for every five of their regular resident members, with an additional delegate for a fraction greater than one-half that number, and shall hold their appointment for one year.

SEC. 3. The permanent members shall consist of those who are members of this Society at the time of the adoption of this Constitution, and who shall continue to conform to the by-laws; and of those who have served in the capacity of delegates, and have maintained their membership as provided by the by-laws.

SEC. 4. Physicians and surgeons eminent in the profession, who are non-residents of this State, or graduates of medicine who reside in the State and have retired from practice, may be elected honorary members.

ARTICLE IV.—*Officers.*

SECTION 1. The officers of this Society shall consist of a President, two Vice-Presidents, Secretary, Treasury, Librarian, and a Judicial Council of five.

SEC. 2. The officers shall be elected at the annual meetings, and shall hold their offices for one year, or until their successors are elected, except the Judicial Council, which shall be elected, one for one year, one for two years, one for three years, one for four years, and one for five years; and thereafter one shall be elected annually.

ARTICLE V.—*Meetings.*

SECTION 1. One regular meeting shall be held each year, at such time and place, from year to year, as the Society may elect. Special meetings may be held as provided by the by-laws.

ARTICLE VI.—*Code of Ethics.*

SECTION 1. The code of ethics of this Society shall be that of the American Medical Association, which is hereby acknowledged as binding upon all its members.

ARTICLE VII.—*Punishments.*

SECTION 1. This Society shall have the power to censure, suspend or expel any member convicted of violating its provisions, or who may be guilty of any act which may be considered derogatory to the honor of the medical profession, on the recommendation of the Judicial Council, and in the manner provided in the by-laws, and by a vote of three-fourths of the members present.

ARTICLE VIII.—*Auxiliary Societies.*

SECTION 1. The members of the profession in any county or district in the State may form a county or district society, which shall become auxiliary to this State Society, and entitled to send delegates whenever the constitution and by-laws have been approved by the Judicial Council of this Society.

ARTICLE IX.—*Amendments.*

SECTION 1. This Constitution may be amended or altered, by the proposed amendment or alteration being submitted in full, in writing, at an annual meeting, and spread upon the minutes. At the next annual meeting it may be taken up and acted upon; and if the proposed amendment, or the substance thereof, receives the vote of three-fourths of the members present, it shall be adopted.

BY-LAWS.

ARTICLE I.—*Duties of Officers.*

SECTION 1. The terms of the officers shall commence at the close of the meeting at which they are elected.

SEC. 2. The President shall preside at all meetings of the Society, preserve order, appoint all committees not otherwise provided for, sign all orders upon the Treasurer for the payment of money, when ordered by the Society, and perform such other duties as the Society may require of him. At the annual meeting, during his term of office, he shall deliver an address upon some appropriate subject.

[Sections 3, 4, and 5 are the same as sections 3, 4, and 6, art. II, of the old By-Laws.]

SEC. 6. It shall be the duty of the Judicial Council to examine the constitution and by-laws of the auxiliary societies, and when approved

to transmit a copy to the Secretary of the Society with their approval. They shall examine into all ethical questions which may come up on appeal from any auxiliary society or in this Society, and give their decision thereon to this Society through the Secretary annually.

SEC. 7. It shall be the duty of the Librarian to preserve all the books, pamphlets and pathological specimens belonging to the Society, and keep the same where they can be consulted and examined by the members as they may desire.

ARTICLE II.

[Sections 1, 2 and 3 same as old article III.]

SEC. 4. At each meeting there shall also be appointed a Committee of Arrangements and Credentials for the ensuing meeting, whose duty shall be to make all necessary arrangements for the meeting, prepare the programme, and examine the credentials of all delegates and permanent members who shall attend, and report the same to the Society.

ARTICLE III.—*Fees and Dues.*

SECTION 1. Every permanent member, and every delegate not already a permanent member, shall pay an initiation fee of three dollars, and every member and delegate shall pay annual dues of one dollar. Assessments may be made at any meeting by a vote of two-thirds of the members present.

[Section 2 like old one, article IV.]

SEC. 3. The penalty for a violation of the Constitution, By-Laws, or Code of Ethics, shall be fine, suspension, or expulsion. An affirmative vote of three-fourths of the members present shall be necessary for suspension or expulsion, to be taken after the decision of the Judicial Council and without debate.

ARTICLE IV.

[Same as article V of the old By-Laws.]

ARTICLE VI.—*Order of Business.*

1. Reading minutes of previous meeting.
2. Report of Committee of Arrangements and Credentials.
3. Calling the roll of members.
4. Election of new members.
5. Address of President.
6. Appointment of Auditing and Nominating Committees.
7. Reports of officers.
8. Reports of regular committees.
9. Reports of special committees.
10. Reading of volunteer papers and communications.
11. Report of Nominating Committee, and action on the same.
12. Report of Committee on Necrology, Auditing Committee.
13. Miscellaneous business, appointing committees.
14. Adjournment.

F. D. MORSE.
H. O. HANNAWALT.

TRANSACTIONS, 1887.

WINFIELD, KANSAS, May 3, 1887.

The twenty-first annual session of the Kansas Medical Society convened at Winfield, Kansas, May 3, 1887, at 2 P. M., and, the President being absent, was called to order by the First Vice-President, Dr. L. A. Buck.

The minutes of the last meeting were read, and approved.

The Secretary called the roll, and the following were found present: Drs. L. A. Buck, J. W. Bacon, A. A. Conry, A. H. Cordier, Geo. Emerson, M. H. Haskins, H. D. Hill, R. Morris, J. E. Minney, A. N. Perkins, S. T. Shepard, L. Horner.

Drs. Bell, Horner and Minney were appointed to fill vacancies in Board of Censors.

The Board of Censors reported favorably on the following for membership: Drs. T. B. Tandy, of Winfield; J. R. McCluggage, Douglass; C. C. Green, Winfield; H. Z. Gill, El Dorado; N. W. Mayginnis, Atlanta; E. W. Woodson, El Dorado; Geo. E. Wright, Arkansas City. Also J. W. Jackson, Kansas City, and W. C. Dugan, Anchorage, Kentucky, for honorary members.

The report was received, and the Secretary instructed to cast the ballot in their favor.

Dr. Geo. Emerson made verbal report for Committee on Arrangements.

Dr. Minney, the only member of the Committee on Medical Law present, reported no progress; but in a few words expressed his individual opinion on the subject, which was discussed freely and at length by Drs. Bell, Buck, Gill, Horner, Hascall, Bacon, and Woodson.

On motion, the Society then adjourned until 8 P. M.

EVENING SESSION.

Society met, pursuant to adjournment, with Dr. Buck in the chair.

Dr. H. D. Hill reported on Practice of Medicine, in place of Dr. J. D. Bryan, absent. This was followed with a very interesting discussion by Drs. Minney, Woodson, Gill, Jackson, and Dugan.

Dr. Gill made a report on Surgery, illustrating the impossibility of making complete reduction and adjustment of the fractured ends of the shaft of large bones, and the extreme care necessary in giving expert testimony in malpractice suits.

Dr. F. D. Morse, President of the Society, then arrived, and took the chair.

The subject of Dr. Gill's report was discussed by Drs. Jackson, Hill, and Horner.

The Society then adjourned until 9 A. M.

MORNING SESSION.

WINFIELD, KANSAS, May 4, 1887.

The Society met at 9 A. M.; Dr. Morse in the chair.

The President appointed the following as a Nominating Committee: Dr. Hill, of Butler county; Dr. Emerson, Cowley county; Dr. Horner, Douglas county; Dr. Bell, Johnson county; Dr. Conry, Marion county; Dr. Haskins, McPherson county; Dr. Minney, Shawnee county; Dr. Perkins, Wilson county.

Dr. Bell made a verbal report on Obstetrics, which was received.

The regular committees on Materia Medica and Physiology were called, but made no report. Also, the same from special committees on Gynecology, Diphtheria, Albumenuria, Infant Feeding, Public Hygiene, Nasal Catarrh and Hay Fever, Hemorrhoids, Diseases of Urethra, and State Medicine.

Dr. Janeway asked privilege to present a patient. On motion of Dr. Minney, a committee was appointed (consisting of Drs. Buck, Gill, and Cordier) to examine the patient and report to the Society.

The Board of Censors reported favorably on the following names presented for membership: Drs. Charles Ward, of Topeka; J. R. McCluggage, of Douglass; W. O. Burnett, of Wellington; W. D. Bidwell, of Leavenworth; and Sarah Hall, of Fort Scott; and they were all duly elected.

Dr. Horner reported three cases—fracture of neck and head of femur, and injury of knee-joint, with specimen. On motion, was referred, and discussion deferred until afternoon.

The President appointed the following as Committee on Necrology: Drs. Bell and Minney.

The Society then adjourned, to meet at 1:30 P. M.

AFTERNOON SESSION.

Dr. Horner's reports were discussed by Drs. Gill, Jackson, Hill, Dugan, and Bell.

The case of Dr. Janeway was reported by committee, and discussed by Drs. Bell, Jackson, Dugan, and Gill.

Dr. Minney read a report on Disease of the Eye. Discussed by Drs. Gill and Bell. After discussion, the paper was referred to the Committee on Publication.

The Committee on Ethics had no report to make.

On motion of Dr. Minney, a vote of thanks was tendered Dr. Horner for the interesting reports and the exhibition of specimen.

Dr. Cordier read report of case of Ruptured Ovarian Cist. Referred without discussion.

An invitation was given and accepted, to ride after adjournment of afternoon session.

Dr. Woodson reported case of Puerperal Peritonitis.

Discussed by Drs. Hill, Gill, Bell, and Woodson.

The Nominating Committee made the following report :

OFFICERS FOR ENSUING YEAR.

President—Dr. L. A. Buck, Peabody.
First Vice-President—Dr. James Bell, Olathe.
Second Vice-President—Dr. H. D. Hill, Augusta.
Treasurer—Dr. W. W. Cochrane, Atchison.
Secretary—Dr. J. E. Minney, Topeka.
Censors—Drs. Geo. Emerson, W. A. Conry, Horner, Lane.

REGULAR COMMITTEES.

Practice of Medicine—Dr. Guibor.
Surgery—Drs. Gill, Hopkins, Mottram.
Obstetrics—Drs. Robinson and Mitchell.
Materia Medica—Drs. Miller and Barnett.
Physiology—Drs. Lane and Woodson.

SPECIAL COMMITTEES.

Gynecology—Dr. Fabrique.
Diphtheria—Dr. Emerson.
Albumenuria—Dr. Schenck.
Infant Feeding—Drs. Cordier and Conry.
Surgery—Drs. Mottram and Horner.
Public Hygiene—Drs. Morse and McAdams.
Diseases of Eye and Ear—Drs. Minney, Tyree, and Thompson.
Nasal Catarrh and Hay Fever—Dr. Curtis.
Hemorrhoids—Dr. Halley.
Diseases of Urethra—Drs. Dickman and Maggard.
State Medicine—Dr. Jacobs.
Necrology—Dr. Boyd.
Committee of Arrangements—Members at Topeka.
Committee on Library, etc.—Drs. Minney, Redden, and Alexander.
Delegates to American Medical Association—Drs. Bell, Schenck, Stormont, Longshore, Cordier, Buck, Emerson, Horner, Lindsay, Green, and Pickens.

Place of Meeting—Topeka.

Time of Meeting—Second Tuesday in May, 1888.

The Secretary was instructed to give certificates to any member who wished to attend the meeting of the American Medical Association.

The report was adopted.

Resolutions from the State Society of Wisconsin read, and received.

The Board of Censors reported favorably the following names proposed for membership: Drs. W. O. Barnett, Wellington; A. H. Fabrique, Wichita; W. T. Wright, Winfield; Jas. S. Foot, Wichita; S. M. Bibbee, Wichita; F. M. Pickens, Winfield; S. J. Guy, Winfield; and they were admitted.

The Committee on Necrology made the following report:

Since our last meeting three of our number have been called to that bourne from whence no traveler returns: Dr. Coons, of Spring Hill, Kansas; Dr. Street, of Baxter Springs, Kansas; and Dr. Eager, of Wyandotte, Kansas.

They were all men of high moral character, and of acknowledged ability in their profession.

We are again reminded that mortality is near.

This Society expresses to the immediate members of the families and relatives their appreciation of the esteem in which these brethren were held, and deeply sympathizes with them in their affliction.

Resolved, That a copy of these words of sympathy be spread upon the minutes of our Society, and a copy sent to each of the families of the deceased.

DR. W. BELL.
DR. J. E. MINNEY.

A letter from the Wichita City Medical Society, asking recognition and credentials in order to send delegates to the meeting of the American Medical Association, was read, and the Secretary instructed to grant the request.

Bills to the amount of $31.25 for printing and postage were presented, allowed, and ordered paid.

Dr. Hill was appointed temporary Treasurer about the middle of the forenoon session.

Meeting adjourned, to meet in Topeka.

GEO. EMERSON, *Acting Secretary.*

PROPOSED CONSTITUTION.

(TO BE ACTED UPON AT THE NEXT ANNUAL MEETING.)

ARTICLE I.—*Name.*

SECTION 1. The name of this Society shall be THE KANSAS STATE MEDICAL SOCIETY.

ARTICLE II.—*Objects.*

SECTION 1. The objects of this Society shall be the advancement of medical knowledge, the elevation of the medical profession, and the promotion of all measures adapted to the relief of suffering, the im-

provement of the health and the protection of the lives of the community.

ARTICLE III.—*Members.*

SECTION 1. The Society shall consist of delegates, permanent members and honorary members.

SEC. 2. The delegates shall receive their appointment from organized county or district societies, in the rates of one for every five of their regular resident members, with an additional delegate for a fraction greater than one-half that number, and shall hold their appointment for one year.

SEC. 3. The permanent members shall consist of those who are members of this Society at the time of the adoption of this Constitution, and who shall continue to conform to the By-Laws; and of those who have served in the capacity of delegates, and have maintained their membership as provided by the By-Laws.

SEC. 4. Physicians and surgeons eminent in the profession who are non-residents of this State, or graduates of medicine who reside in the State and have retired from practice, may be elected honorary members.

ARTICLE IV.—*Officers.*

SECTION 1. The officers of this Society shall consist of a President, two Vice-Presidents, Secretary, Treasurer, Librarian, and a Judicial Council of five.

SEC. 2. The officers shall be elected at the annual meetings, and shall hold their offices for one year or until their successors are elected, except the Judicial Council, which shall be elected, one for one year, one for two years, one for three years, one for four years, and one for five years; and thereafter one shall be elected annually.

ARTICLE V.—*Meetings.*

SECTION 1. One regular meeting shall be held each year, at such time and place from year to year as the Society may elect. Special meetings may be held as provided by the By-Laws.

ARTICLE VI.—*Code of Ethics.*

SECTION 1. The Code of Ethics of this Society shall be that of the American Medical Association, which is hereby acknowledged as binding upon all its members.

ARTICLE VII.—*Punishments.*

SECTION 1. This Society shall have the power to censure, suspend or expel any member convicted of violating its provisions, or who may be guilty of any act which may be considered derogatory to the honor of the medical profession, on the recommendation of the Judicial Council, and in the manner provided in the By-Laws, and by a vote of three-fourths of the members present.

ARTICLE VIII.—*Auxiliary Societies.*

SECTION 1. The members of the profession in any county or district in the State may form a county or district society, which shall become auxiliary to this State Society, and entitled to send delegates whenever its constitution and by-laws have been approved by the Judicial Council of this Society.

ARTICLE IX.—*Amendments.*

SECTION 1. This Constitution may be amended or altered by the proposed amendment or alteration being submitted in full in writing at an annual meeting, and spread upon the minutes. At the next annual meeting it may be taken up and acted upon; and if the proposed amendment, or the substance thereof, receives the vote of three-fourths of the members present, it shall be adopted.

BY-LAWS.

ARTICLE I.—*Duties of Officers.*

SECTION 1. The terms of the officers shall commence at the close of the meeting at which they are elected.

SEC. 2. The President shall preside at all meetings of the Society, preserve order, appoint all committees not otherwise provided for, sign all orders upon the Treasurer for the payment of money when ordered by the Society, and perform such other duties as the Society may require of him. At the annual meeting during his term of office he shall deliver an address upon some appropriate subject.

SEC. 3. In the absence of the President, the first Vice-President, and in his absence also, the second Vice-President shall act as President. In the absence of the President and both the Vice-Presidents, the Society shall elect a President *pro tempore.*

SEC. 4. The Secretary shall keep a correct record of all the proceedings of the Society, and prepare the same for publication, and shall have charge of and carefully preserve all the books, papers and other documents of the Society, and keep a list of the members, with their post-office address; notify new members of their election within thirty days thereafter; conduct the correspondence; attest all orders drawn upon the Treasurer by order of the Society; and discharge such other duties as may be required of him; and make a report of his doings, and the condition of the Society, at each annual meeting.

SEC. 5. The Treasurer shall have charge of the funds of the Society, collect all fees, dues and fines promptly, and keep a correct account thereof; pay out moneys only on orders signed by the President and attested by the Secretary; and at each annual meeting submit a detailed report of the exact condition of the treasury; and at the end of his term hand over to his successor all the moneys and other property in his possession belonging to his office.

SEC. 6. It shall be the duty of the Judicial Council to examine the constitution and by-laws of the auxiliary societies, and when approved, to transmit a copy to the Secretary of this Society with their approval. They shall examine into all ethical questions which may come up on appeal from any auxiliary society or in this Society, and give their decision thereon to this Society through the Secretary, annually.

SEC. 7. It shall be the duty of the Librarian to preserve all the books, pamphlets and pathological specimens belonging to the Society, and keep the same where they can be consulted and examined by the members as they may desire.

ARTICLE II.—*Committees.*

SECTION 1. Four regular committees shall be appointed at each annual meeting, to report at the next annual meeting, to wit: A Committee on Practical Medicine; a Committee on Surgery; a Committee on Obstetrics; and a Committee on Materia Medica. Special committees may be appointed to report on special subjects, on recommendation of the Nominating Committee.

SEC. 2. The Committee on Nominations shall consist of three members from each county represented in the meeting of the Society, who shall report to the Society the names of suitable persons for officers and for the regular committees for the ensuing year. They may also nominate special committees to report on such subjects as they may deem advisable.

SEC. 3. At each meeting there shall also be appointed a Committee of Arrangements and Credentials for the ensuing meeting, whose duty shall be to make all necessary arrangements for the meeting, prepare the programme and examine the credentials of all delegates and permanent members who shall attend, and report the same to the Society.

ARTICLE III.—*Fees and Dues.*

SECTION 1. Every permanent member, and every delegate not already a permanent member, shall pay an initiation fee of three dollars, and every member and delegate shall pay annual dues of one dollar. Assessments may be made at any meeting by a vote of two-thirds of the members present.

SEC. 2. The initiation fee shall be three dollars. Every member shall pay one dollar dues, annually, to be collected at the annual meeting. Assessments may be made at any meeting by a vote of two-thirds of the members present.

SEC. 3. The penalty for a violation of the Constitution, By-Laws or Code of Ethics shall be fine, suspension or expulsion. An affirmative vote of three-fourths of the members present shall be necessary for suspension or expulsion, to be taken after the decision of the Judicial Council, and without debate.

ARTICLE IV.—*Miscellaneous.*

SECTION 1. *Quorum.*—Five members shall constitute a quorum for the transaction of business.

SEC. 2. *Special Meetings.*—Special meetings may be called by the President and Secretary, on the written request of three members, the Secretary to give ten days' notice to each member of the time, place and objects of said meeting; and no business shall be transacted except such as shall have been designated in the call.

SEC. 3. *Notices.*—A notice shall be valid which has been served personally, or by writing deposited in the post-office to the address of the party.

SEC. 4. *Usage.*—Parliamentary usage shall govern in the transaction of business, when not otherwise provided for.

SEC. 5. *Amendments.*—These By-Laws may be suspended or amended at an annual meeting, by a resolution submitted in writing, and receiving a two-thirds majority of the members present.

ARTICLE V.—*Order of Business.*

1. Reading minutes of previous meeting.
2. Report of Committee of Arrangements and Credentials.
3. Calling the roll of members.
4. Election of new members.
5. Address of President.
6. Appointment of Auditing and Nominating Committees.
7. Reports of officers.
8. Reports of regular committees.
9. Reports of special committees.
10. Reading of volunteer papers and communications.
11. Report of Nominating Committee, and action on the same.
12. Report of Committee on Necrology, Auditing Committee.
13. Miscellaneous business, appointing committees.
14. Adjournment.

TRANSACTIONS, 1888.

TOPEKA, KANSAS, May 1, 1888.

The twenty-second annual session of the Kansas State Medical Society convened in Representative Hall, Topeka, May 1st, 1888, at 8 P. M.; President Dr. L. A. Buck in the chair.

The session was opened with prayer by Dr. F. S. McCabe, of Topeka.

The following members responded to their names on roll-call: Drs. L. A. Buck, Peabody; J. D. Bryan, Louisburg; G. L. Beers, Topeka; A. W. Carson, Dover; W. W. Campbell, Atchison; J. B. Dudley, Topeka; B. D. Eastman, Topeka; B. E. Fryer, Kansas City, Mo.; A. L. Fulton, Kansas City, Mo.; W. B. Gibson, Topeka; C. H. Guibor, Beloit; J. Greene, Alma; C. C. Green, Winfield; H. Z. Giel, El Dorado; L. S. Hall, Augusta; H. O. Hannawalt, Kansas City, Mo.; G. W. Hogeboom, Topeka; J. Z. Hills, Clyde; D. C. Jones, Topeka; W. S. Lindsay, Topeka; D. K. Longshore, Topeka; J. A. Lane, Leavenworth; N. W. Mayginnis, Atlanta; R. E. McVey, Topeka; J. E. Minney, Topeka; H. C. Miner, North Topeka; O. C. McNary, Fort Leavenworth; C. A. McGuire, Topeka; W. W. Nye, Hiawatha; J. H. Page, Emporia; J. L. Potter, Paola; A. B. Peters, Mankato; W. A. Phillips, Salina; N. T. P. Robertson, Hutchinson; J. W. Redden, Topeka; N. F. Sawhill, Concordia; N. J. Taylor, Topeka; M. B. Ward, Topeka; C. W. Adams, Kansas City; J. H. Thompson, Kansas City.

Dr. W. S. Lindsay was appointed temporary Treasurer, in the absence of the regular Treasurer.

Judge John Martin, of Topeka, delivered the following address of welcome:

Mr. President, Ladies, and Gentlemen: The local committee of the medical fraternity of this city did me an honor a short time since, by inviting me to make an address of welcome to the members of the Kansas State Medical Society, and in an unguarded moment I consented to comply with the request, and it has been a wonder to me ever since why I should have been selected.

I have concluded that it was for the following reasons:

First, the lawyer knows so little about medicine that whatever he says on the subject would not be likely to provoke discussion.

Then there is a sort of relationship between doctors and lawyers. The doctor looks after the person and estate before death, and the lawyer afterwards.

You have assembled here for the interchange of views regarding your useful and noble profession, and it is, therefore, not proper that I should detain you long.

You already realize the importance of your profession. You are in one sense the confidential advisers of every family and familiar with the most sacred and private affairs — a position of honor; and realizing this, it is truly wonderful the few violations of such important trusts.

Your relations to the State are important, and contribute to the general good.

You have commenced an inquiry into the cause of local diseases which must be of value, and inaugurated other important measures.

We welcome you gladly and heartily to the Capital City, and commend you to the care of the local members of the profession, who—I tell you; it's a secret—are in harmony. We call your attention to our splendid paved streets. In few cities can you find their equal. We also call your attention to the Insane Asylum near by, where you will doubtless find many of your—I was going to say victims, but I refrain. You will find there many of your former patients. No one should leave the city without at least once attending a meeting of the city council. There are many other things I might call your attention to did time permit. Again I extend to you a hearty welcome.

The reply was by Dr. W. L. Schenk, of Osage City, who said:

Mr. President, Ladies and Gentlemen: In responding to Judge Martin in behalf of the State Medical Society, I can only say,

"We take your courtesy, by heaven,
As fully as 'tis nobly given."

Not intending, however, by the quotation, to intimate that he is the leader of a hostile clan, or that we have lost our way, but accepting him as one who fully appreciates the value of a profession that seeks to give life and health to the body, and thereby the grandest possibilities to the mind of soul and man; that through its unpaid labors lays up treasures in Heaven, and that by its advocacy of preventive and State medicine constantly lessens its own income. Even members of the clerical profession, when they have happily succeeded in converting their entire congregations, are deemed worthy an increase of salary while they keep them in the "narrow way," but members of the medical profession, when they have succeeded in removing the causes of disease, find "they that are whole need no physician."

While we gladly accept the greeting of one possessing that broad and enlightened statesmanship and humanity that duly estimates the value of human health and life, we are forced to remember that he is above those Kansas politicians, who, despite the importunities of this Society, have neglected to make the necessary legal provisions for preserving the health, prolonging the lives and increasing the happiness of the people by empowering them to remove the causes and prevent the diseases that destroy health, happiness, and life.

Our faith in Judge Martin, as well as in his distinguished namesake, the recognized leader of another branch of our political family, induces the belief that they will lead us

"O'er stocks and stones, through watch and ward
As far as Coilantogle's ford,"

until the people are delivered from the dangers that surround their pathway, and too often bring sorrow to all our homes.

Filth deposits, the disposal of sewage, the disinfection and destruction of the septic poisons that cause and continue infectious and contagious diseases, with an hundred other causes that tend to disease and death, and thus deplete the State financially, physically, intellectually and morally, should be under the control of a department or board of health *empowered to act promptly and efficiently for their prevention, removal, or destruction.*

The State makes such provision for its cattle. A few years ago, down in Lyon county, some steers that had been badly wintered in a muddy corral on short rations, had sore feet, and died, and the cry of foot-and-mouth disease rang through the State. An extra session of the Legislature was convened, which made haste to create a sort of bureau of animal life, and provide for a new official to look after the cattle, with power to act, and a proper salary. That was all very well. But that same winter, here in Topeka, and throughout the State, many children died of scarlet fever and diphtheria, and many have died every season since, but neither that nor any other Legislature has empowered

any other one to protect human life against preventable disease. Are cattle and calves of more value to the State than men, women, and children? Henry Bergh did a good work in preventing cruelty to animals, but we need a greater than Bergh to mould public opinion in the interest of humanity.

There are said to be those who attribute selfishness to the motives of the scientific and philanthropic sanitarian in his efforts to prevent the generation, invasion and dissemination of disease, and to abate the vandals and swindlers who, under the guise of disciples of the healing art, ruin health and destroy life. If there are such, we can only say, "Having eyes they see not, and having ears hear not." His profession has so constantly revealed to the physician the suffering side of human life, that of necessity he has drank of the spirit of the Great Physician, who went about continually doing good, and who yet condemned, in unmistakable tones, his co-religionists whose practice tended only to self-exaltation—"Scribes, Pharisees, hypocrites!" And what philanthropic physician, whether mustering as saint or sinner, may not be excused for doubting the religion of a denominational newspaper that serves God and Mammon by mingling in nearly equal proportion morality and falsehood? Take, for example, a pretentious paper of my own denomination, published in a neighboring State, and read:

"All doors that lead inward to the secret places of the Most High are doors outward —out of self, out of smallness, out of wrong."

"Mrs. Winslow's soothing syrup should always be used for children teething."

"Please inform your readers that I have a positive remedy for consumption."

"Christ will surely come again, and we must all give an account of the deeds done in the body." [Especially the editor of a religious newspaper who turns patent nostrum advertiser.]

"A simple remedy has been formulated, whereby catarrh, catarrhal deafness and hay fever are cured by from one to three simple applications. Send to," etc.

"Prickly Ash Bitters cures all diseases of the blood, liver, stomach, kidneys, bowels, etc."

And so on, until *seven columns* of the number from which we quote, whose leading editorial begins "Christianity stands square with the world," (we should say so, if this is a sample,) are filled with shameless lies made blasphemous by their connection with great moral truths.

While the physician recognizes the fact that disease lurks in all our surroundings, he does not, with Ingersoll, sneer at Providence and ask, "Why is not good health catching as well as disease?" Health he recognizes as the normal condition of man, and the result of physiological processes. Disease is a pathological action, the penalty of violated law. The opposing forces of nature are not evil, but the means whereby she develops force. Call it Nature, Providence, God—there is a supervising power that is always humane, that always tends to health. The tired brain, the weary muscle, the gorged digestion, are its warnings. Pain is not cruel; it is nature's danger-signal. If we disregard its voice and rush to destruction, why charge the results to a mysterious Providence? And so when the State refuses or neglects to provide protection against the causes and conditions of great epidemics or the sources of disease, the politician, and not Providence, must bear the blame. God's laws are in harmony with the highest interests of man—physical, intellectual, and moral—and tend to the best possible results. The penalties of violation are only promptings, pleadings, warnings to obedience.

Fellows of the State Medical Society, let us strive to prove worthy our welcome and worthy our profession. We owe much to the age and to posterity. There are some of us who witnessed the birth of anæsthesia. Who shall measure the value of this gift alone? With all our other knowledge can we believe that surgery would have made the wonderful progress that marks this last half of the nineteenth century without it? But for the sake of both patient and surgeon, let us be careful that we abuse not the boon. Even now, perhaps, some of our ovariotomists may wisely listen to a voice that floats down the ages:

> "Cut off from marriage bed and marriage song,
> Untasting wife's true joy or mother's bliss,"

or in imagination scan the future and behold what may happen when the female sur-

geon is in the majority, and her love for man calls forth the skill his love now gives to her.

If anæsthesia alone had been given we might cry enough, but Esmarch has taught us bloodless surgery, which not only saves the vital current of the patient, but enables us to examine the various tissues unobscured by hemorrhage, and to perform operations that might otherwise be impossible. More recent is our knowledge of anti-septics. Freed from the dangers of pain, hemorrhage and septic contamination, recovery is almost assured; and with our yet more recently discovery anti-pyrectics we obtain almost absolute control over reactionary fever. And then we have Sayer's plaster casks, Martin's strong rubber bandages, and scores of other priceless gifts.

In physiology, psychology, pathology, gynæcology, obstetrics, therapeutics, and chemistry, we are alike debtors. In the field of preventive medicine, in proportion as the wisdom and humanity of legislators have given us power, we are able to prevent, arrest or "corral" nearly all the most virulent diseases that afflict mankind.

The life of the true physician is neither one of idleness nor ease. He cannot know what has been revealed without burning the midnight oil, and the noble mind does not rest content in living on the past. To his professional knowledge, labors and anxieties the public expect him to add the natural sciences, to be versed in the choicest literature, to be *au fait* in politics and to be foremost in every good work. Surely there is no room in our profession for the idler, the smart young man, or the conceited old one.

"Fervent in spirit, not slothful in business," let us remember that he who serves best his fellow-man serves best his God. May our choice be that of Abou Ben Adhem:

"Exceeding peace had made Ben Adhem bold;
And to the presence in his room he said,
'What writest thou?' The vision raised its head,
And with a look made of all sweet accord,
Answered, 'The names of those who love the Lord.'
'And is mine one?' said Abou. 'Nay, not so,'
Replied the angel. Abou spoke more low,
But cheerily still, and said, 'I pray thee, then,
Write me as one who loves his fellow-men.'
The angel wrote and vanished, but the next night
Came again, with a great wakening light,
And showed the names whom love of God had blest;
And, lo! Ben Adhem's name led all the rest."

Dr. O'Brien, of the Committee of Arrangements, stated that he had no formal report to make, but he was instructed to invite the members to take a ride over the city on the Rapid Transit Railway on Thursday morning, and also to extend a hearty welcome in the name of the Topeka Academy of Medicine and Surgery. The report was received, but owing to lack of time the Association could not accept the invitation, but extended to the Committee of Arrangements and the local society a vote of thanks for their kindness.

An address on Medical Jurisprudence was delivered by Hon. J. T. Bradley, of Topeka.

The Board of Censors reported favorably upon T. W. Peers, Topeka; N. D. Toby, of Salina; G. A. Coggershall, of Ellsworth; L. L. Uhls, of White City; J. F. McGill, of Leavenworth; C. M. Arbuthnot, of Belleville; J. H. Page, of Emporia; A. B. Freeman, of Wellington; L. J. Warren, of Clay Center; L. H. Munn, of Topeka; A. H. Knapp, of Osawatomie; Fred E. Grant, of Ottawa; J. J. Wright, of Emporia; D. F. Longnecker, of Emporia; E. D. Bradley, of Salina; A. W. Sellard, of Scranton; W. M. Hatfield, of Osage City; D. Bell, of Richmond; G. L. Sumner, of Leavenworth; J. G. Stair, of Topeka; S. G. Stewart, of

Topeka; J. C. McClintock, of Topeka; G. A. Wall, of Topeka; J. R. Fay, of Topeka; Adeline E. Metcalf, of Topeka; C. R. Hume, of Caldwell; J. M. Hunt, of Wellington; W. A. Uhl, of Richmond. The applications of E. A. Collins and F. B. Brown, of Salina, were continued until the next regular session.

The Board of Censors consisted of C. H. Guibor, of Beloit; C. C. Green, of Winfield; N. T. P. Robertson, of Hutchinson; J. D. Bryan, of Lindsborg, and H. D. Hill, of Augusta.

Owing to the lateness of the hour the paper on Cases in Practice, by Dr. Guibor, and one on Nasal Catarrh, by Dr. Curtis, were not read.

MORNING SESSION.

TOPEKA, KANSAS, May 2, 1888.

The Society met at 9:15 A. M., President Buck in the chair.

The report of the Treasurer, Dr. Cochrane, was read and accepted, as follows:

ATCHISON, KANSAS, May 1, 1888.

W. W. COCHRANE, Treasurer,
In account with the Kansas Medical Society.

To balance on hand for 1887	$186 52	
To dues for 1888	298 00	
		$484 52
By amount paid J. E. Minney	$22 00	
By amount paid W. W. Cochrane	15 00	
By amount paid J. E. Minney	25 00	
		62 00
Balance on hand		$422 52

Dr. H. Z. Gill, of El Dorado, read a report on Advancements in Surgery.

The Board of Censors reported the following names for membership:

O. B. Whitticar, Peabody; S. S. Shelly, Mulvane; C. C. Surber, Delphos; L. B. Gillett, Medicine Lodge; F. O. Jackman, Topeka; J. L. Freeman, Wellington; G. A. Biddle, Emporia; D. C. Dorgaty, Paxico; J. B. Stewart, Clay Center; H. W. Morgan, Clay Center; Chas. Gardner, Emporia; S. A. Reynolds, Clay Center, and W. E. McVey, Topeka.

Honorary members: Dr. T. J. Miller, Cambridge, O.; Dr. Willis P. King, Sedalia, Mo.

On motion of Dr. Fryer, the newly-elected members were admitted to join in the discussions before the convention.

The discussion of Dr. Gill's paper was postponed till afternoon session.

Dr. Wright, of Emporia, presented in behalf of the Lyon County Medical Law Association, a proposed bill to regulate the practice of medicine in this State, and asked the coöperation of this Society in securing its passage by the next Legislature. The subject was referred to a committee consisting of Drs. Schenck, Jones, and Guibor, of the State Board of Health, and Drs. Wright, Jacobs, and Page.

Adjourned, to meet at 2 P. M.

AFTERNOON SESSION.

The Society met at 2 P. M.

A Nominating Committee was appointed, as follows: Drs. Cochrane, Hill, McGuire, Mottram, Lane, Fryer, Schenck, Biddle, Whittaker, Green, M. B. Smith, Chase, Guibor, Divelbiss, Warren, Gill, Lee, Maginniss, Peters, Phillips, Robertson, Sawhill, Arbuthnot.

The following were appointed a Committee on Publication: Drs. Bell, Cochrane, Schenck, Morse, and Minney.

Dr. Gill's paper on Surgery was discussed.

Dr. Fryer, of Kansas City, said he was well pleased with the paper read, as it showed a good deal of labor in its preparation. The rules of antiseptic and aseptic surgery were now established beyond peradventure. Permanganate of potash was a good solution for washing the hands. Abscesses in the mastoid region, spoken of in the paper, cannot be too freely discussed. Many patients lose their lives through neglect of this serious trouble. Thrombosis of lateral sinus and abscess of brain result from the disease oftentimes. The anatomy varies in individual cases, so that in some cases the lateral sinus may be exposed in the operation of trephining. The chisel and mallet and the drill may all be used in the same case. Great caution, however, should be exercised.

Dr. A. L. Fulton said that while the paper covered a vast field for discussion, there were but two points he desired to briefly refer to. The first was in regard to mastoid abscess. All cases of mastoid abscess do not require surgical operations for their relief. Many abscesses discharge through the ear after a time, and probably before a surgeon is consulted. In such cases, when there is no rise of temperature, it is safe to let them alone, using hot water and boracic acid to wash out the ear. This may be carefully done with a syringe several times a day. It is not good practice to trephine indiscriminately. Wilde's incision often serves every purpose.

The other point in the paper meeting his disapproval, is that of wiring the patella. There may be some eclat accompanying the procedure, but whether this will compensate for the possible loss of motion of leg, or loss of leg or of life, is a question. Ordinarily a fracture of the patella, under the usual careful treatment, gives a good, strong ligamentous union, with motion, good strength, and little lameness after a year or two. In short, a fairly useful limb is the result of a carefully treated fracture of the patella by mechanical means. Contrast this with the possible dangers of wiring. Every surgeon knows the dangers of a simple cut into the cavity of the knee-joint. When a patella is wired the joint must be opened, and several dangers may follow. We may have a good result; we may have an anchylosed joint; we may have loss of the leg; we may have death. With these four con-

tingencies before us, the operation is not justifiable, as compared with the ordinary treatment, which is accompanied by none of these dangers, and usually gives a good and useful limb.

Dr. J. E. Minney said the operation for mastoid abscess is not so dangerous as is generally supposed, provided proper caution is exercised and the progress is made slowly. A mastoid abscess should not be allowed to break without operation; after operation the wound should be kept open as long as possible while any suppuration is observed, and should be kept strictly clean. He said that he did not agree with Dr. Fulton, that when suppuration through the ear has set up it is not always necessary to operate. He believed that an operation is called for, even though there be a good discharge from the ear. There should be no delay in the operation for mastoid disease.

Dr. Willis P. King, of Sedalia, Mo., said the paper read was quite to the point, so far as antiseptic surgery was concerned. Antiseptic surgery is still making progress, without any probability that it will be less in vogue. Strict cleanliness is the first principle of antisepsis. Having charge of a large railroad hospital, he is able to observe the advantage of absolute antiseptic measures. All cases of septicemia are caused by germs. He uses bichloride of mercury very freely in the hospital, 1 to 3,000, as an irrigation; no germs, no pus.

Dr. J. W. Jackson, of Kansas City, said there was no longer any dispute regarding antiseptic surgery. In his hospitals all the principles of antiseptic surgery are vigorously enforced. In wiring bones, as suggested by the author of the paper, strict antiseptic measures are necessary. Long bones may be wired with good results; as a rule, two wires are enough for any bone; good drainage must not be neglected. In opening the mastoid cells he uses the semi-lunar chisel as a rule. It is the safer procedure.

Dr. Gill, in closing, said that as there was not much disagreement with the paper, he had little to say. In speaking of mastoid abscess, the opinion was expressed that opening was always good practice; he did not think so. Cerebral symptoms, pyæmia, etc., demand immediate operation. The patella should not be wired by inexperienced hands, while it will be the rule in experienced hands before long; it is fast growing in favor.

Dr. N. T. P. Robertson read a paper on the Progress of Obstetrics.

Dr. Fulton said there was but one point in the admirable paper that he desired to take issue with, and he wished to express his dissent emphatically, so that no one could misunderstand his position. He referred to the use of the 1 to 1,000 corrosive sublimate solution in the uterine cavity. The use of such a solution was simply malpractice; a quantity injected into the cavity of the womb will be followed by poisonous effects. He therefore protested against its use as spoken of in the paper.

Dr. Richmond, of St. Joseph, Mo., said, in reference to the use of forceps, care should be exercised. Physicians are often tempted to exercise haste in the employment of forceps. They are useful, but too often abused. The use of forceps tends to rupture of the perineum.

Dr. Gill said, referring to the use of intra-uterine injections, they should not be allowed to remain in the uterus, but should be washed out immediately after use.

Dr. Uhl said his practice in the use of forceps was to wait till nature fails to give relief and pains are beginning to fail; no time should then be lost.

Dr. Bryan said, in reference to the dangers attending the use of ergot, that experience had taught him they did not, as a rule, exist. Ergot, used when the os is well dilated, is very serviceable in favoring the progress of labor; after-pains are also relieved by it, and post-partum hemorrhage prevented. Twelve years of experience with the liberal use of the drug had given perfect satisfaction.

Dr. Casier uses ergot in nearly all cases of labor, with universally good results. Morphine is also very serviceable in mitigating suffering.

Dr. Hazzard said ergot would stand the test of experience under all just criticism. Cottonwood is also excellent for the same purposes as ergot.

Dr. Robertson, in closing, said he had made no objection in the paper to the use of ergot. While he spoke of the strong solution of corrosive sublimate, he did not use it in the strength spoken of in the paper.

The Committee on Library made the following report:

Mr. President, your Committee on Library beg leave to make the following report and recommendations:

First. That $10,000 be raised for the purpose of purchasing and maintaining a library for the benefit of the Kansas State Medical Society and the medical profession of the State of Kansas.

Second. That said library be located in the State capitol, Topeka, Kansas, and be governed by the same rules and regulations as the present State Library.

Respectfully submitted.

J. E. MINNEY.
J. W. REDDEN.
REID ALEXANDER.

A communication from Mrs. D. W. Stormont was read, as follows:

"Whereas, my late husband, David W. Stormont, had been for many years before his death prominently connected with the medical fraternity of Kansas, and particularly devoted to and interested in the prosperity, progress and usefulness of the Kansas State Medical Society, and I being desirous that his name shall continue to be associated with the medical fraternity of the State and with said Kansas State Medical Society; to that end and for that purpose I hereby give and bequeath to the State of Kansas, in trust, for the uses and purposes hereinafter named, the sum of $5,000 in money, and I hereby direct my executors, named in my will, A. D. 1888, as soon after my death as may be practicable, to pay over said sum of $5,000 to the Treasurer of the State of Kansas, which money shall constitute a perpetual endowment fund, to be known as the Stormont Medical Library Fund."

The handsome gift of Mrs. Stormont was gratefully accepted by the Society, and a committee was appointed to carry out the provisions.

The Central, Southern Kansas, and Eastern Kansas District Medical Societies asked to be recognized by the State Medical Society. Their requests were referred to the Judicial Council.

The Society then adjourned.

EVENING SESSION.

Dr. J. D. Bryan, of Louisburg, read a paper on Membranous Croup, which was discussed, and referred to the Committee on Publication.

Dr. Homer made a verbal report of two surgical cases, accompanied by photographs illustrating the effects of antiseptic treatment.

Dr. Boyd, of Newton, Committee on Necrology, presented a memorial on the death of Dr. D. W. Stormont, which will be found on subequent pages. Several members spoke in eulogistic terms of Dr. Stormont; a committee was appointed to draft resolutions of respect.

Dr. A. L. Fulton also presented a paper in memory of Dr. G. R. Baldwin, of Fort Scott, which will be found on subsequent pages.

Dr. Richmond, of St. Joseph, Mo., read a short paper on Rectal Diseases of Women, which was referred without discussion.

The Committee on Nominations reported as follows: For President, Dr. J. Bell, Olathe; Vice-President, Dr. H. D. Hill, Augusta; Second Vice-President, Dr. James A. Lane, Leavenworth; Treasurer, W. W. Cochrane, Atchison; Secretary, J. E. Minney, Topeka; delegates to the American Medical Association, Drs. Mottram, of Lawrence, Fryer, of Kansas City, Minney, of Topeka, Buck, of Peabody, Phillips, of Salina, Schenck, of Osage City, and Morse, of Lawrence.

The next place of meeting was designated by the committee as Salina. The report of the committee was accepted, with the exception of the place of meeting. The expression of the majority was to meet in Topeka, out of respect to Dr. Stormont, as it will be in order at the next annual meeting to accept the library fund presented by Mrs. Stormont. A motion prevailed to the effect that Topeka be the next place of meeting.

The President appointed Drs. Jones, Lane, and Fryer, Committee on Necrology, for the ensuing year.

On motion, the Constitution and By-Laws, reported last year by the Revision Committee, were adopted.

The Secretary was authorized to draw an order, in favor of himself, on the Treasurer for twenty-five dollars, for incidental expenses.

The Board of Censors reported as follows:

MR. PRESIDENT: The Board of Censors have instructed me to report back to the Society, for consideration, the application for membership of William B. Dewees, of Salina, Kas. There being charges preferred against him, involving principles so important that the Board of Censors do not feel justified in determining the issue; the

charges being those of quackery, and irregular advertising, specifications being as to the capability of practitioner in specialties, and a patent supporter (uterine), both by newspaper and pamphlet.

Justification is pleaded on the ground of a combination of doctors against the applicant, and also repentance, with promises of future good behavior, with the claim that the conduct of the year past has been correct. Evidence shows that the applicant has been rejected for membership by the Central Kansas District Medical Society.

These being some of the pertinent facts in the case, the Board of Censors consider the following propositions present themselves for discussion and solution:

1. If a county or district medical society reject an applicant for membership, will it be proper to admit him to membership in the State Medical Society?

2. Is it advisable to admit any applicant who has violated the Code of Medical Ethics by public advertising? If so, how long a time should be the period of probation before admitting him?

H. B. HILL,
Chairman Board of Censors.

The whole matter was laid over for another year.

Dr. Schenck moved that the transactions of the Kansas Medical Society be published in book form from 1878 to 1888, inclusive. It was so ordered.

Drs. Guibor, Alexander and Minney were continued as Committee on Library. Said committee was also appointed to carry out the provisions of the gift of Mrs. Stormont.

Dr. Cochrane moved that a special meeting of the Society be held in January, in Topeka, out of respect for Dr. Stormont, and to receive the final report of the committee appointed to carry out the provisions, accompanying the gift, by Mrs. Stormont.

The following delegates to the American Medical Association were appointed: Drs. Mottram, Fryer, Minney, Buck, Phillips, Schenck, Morse, Mendenhall, Cordier, Aikman, Oldham.

The Society then adjourned.

MORNING SESSION.

TOPEKA, KANSAS, May 3, 1888.

The Society met at 9:15 A. M.; the President in the chair.

The President appointed the following as Judicial Council: Drs. Bell, Cochrane, Hannawalt, Lane, and Bacon.

Dr. J. A. Lane read a paper on Cellular Physiology.

The paper was received, and was discussed by Dr. Horner, of Lawrence, Dr. Lindsay, of Topeka, Dr. Bell, of Olathe, and others.

Dr. Bell was inclined to be doubtful about accepting all that was said and written regarding the germ theory. While complimenting the paper, he declared the theory of germs expressed in the paper the most sweeping he had ever heard. He thought the subject was carried a little beyond the point in the germ theory. "We are likely to go too fast," said Dr. Bell, "in the reproduction theory."

One member of the association thought that possibly when our microscopes are better developed the cell theory may be a little complicated.

Dr. Gill opposed the cellular theory.

Dr. Gardner, of Emporia, thought pus was formed from protoplasm.

Dr. Bell opposed this theory. His idea of protoplasm was health germs, from which muscle, bones and plants are formed.

Dr. Lane closed the discussion, and the paper was referred to the Board of Publication.

The Board of Censors reported the following names for membership: Drs. J. R. Crawford, W. S. Bunn, A. B. McCandless, and P. D. Hughes.

Dr. McVey, of Topeka, read a paper on Indigestion.

Dr. Lane opposed the prepared foods and extracts, especially beef extracts.

Dr. Hill said there was too much attention paid to diseases with high-sounding names, while more important cases, the more common diseases, are allowed to go unalleviated and but little attention is paid to them. He found in cases of indigestion that change of scene, trips to springs or mountains, rest from business, etc., do more good than all the medicine he could give.

Dr. Longshore said the sooner dyspepsia was classed among nervous diseases, the sooner it could be properly treated. Outdoor exercise is one of her favorite remedies, and she importuned the physicians to urge on their lady patients to spend more time out of doors.

Dr. Bell wanted the younger members to attend more to the common diseases than the germ theory. Diseases of the stomach, he thought, could be prevented in a measure by proper diet and outdoor exercise.

The discussion was closed by Dr. McVey, and properly reported.

Dr. Morris and Dr. Buck each presented medical specimens.

The following papers were read by title, and referred to Committee on Publication: Alopecia, Dr. Miller, of Cambridge, Ohio; Pott's Fracture, Dr. Cordier, Windom; Cholera, Dr. Cochrane, Atchison; Albumenuria, Dr. Schenck, Osage City; Physioderm-Pathoderm, Dr. Cochrane, Atchison.

It was ordered that the action taken by the Society at its meeting at McPherson, Kas., instructing the Secretary to dispose of the bound volumes of the Transactions of the State Society from 1860–1877 to members who were admitted since the latter date at one dollar per volume, be and is hereby reconsidered, and that said volumes shall be delivered to said members free, upon application to the Secretary.

Adjourned, to meet at 2:30 P. M.

AFTERNOON SESSION.

Chancellor Lippincott, of the State University, presented an exhaustive paper on the establishment of a Kansas medical college in connection with the University.

Superintendent Bloss saw no reason why the proposition of Dr. Lippincott should not be entertained. The sophomore year should at least be taken, and, better still, the entire collegiate course. Physicians, more than anyone else, need broad culture.

Dr. Cazier, of Burlingame, thought it a question of finances to undergo the entire collegiate and medical courses.

Dr. Lippincott inquired if the freshman and sophomore years were donated, if that would obviate the difficulty.

Dr. Cazier thought it would.

Dr. Sheldon was in favor of having a medical school as soon as possible, though there might be some trouble among the pathies. He would want the college "regular."

Dr. Minney thought the rising physicians should have broader education and be better prepared than the present ones, but thought the West did not offer equal advantages to those of larger cities.

Dr. Redden indorsed the plan.

Dr. Buck believed the students should be educated in Kansas, and Kansas have the glory of all her bright students instead of Eastern colleges sharing in the honor.

Dr. Eastman deemed the Eastern facilities and advantages superior to those of the West.

Dr. Horner thought the West equal in educational advantages to the East.

After some further discussion, on motion of Dr. Sheldon a committee, consisting of four members of the Medical Society and Chancellor Lippincott, were appointed to take under advisement the establishing of a medical college in connection with the State University of Kansas, as set forth in the Chancellor's paper, or other and better plans for the accomplishment of the same object. Carried.

The Chair was given time to appoint the remainder of the committee.

Adjourned, to meet in Topeka in May, 1889.

REPORT ON SURGERY.

BY H. Z. GILL, A. M., M. D., LL. D., EL DORADO,
(Chairman of the Committee on Surgery.)

Any report on surgery that does not recognize in the fullest manner, the practice, if not the theories, of aseptic and antiseptic management of wounds, would justly be regarded as very imperfect; for it must now be admitted without question, that many operations may be

undertaken with reasonable hope of success under the rules of asepsis and antisepsis which but a few years since would not have been thought justifiable.

While, practically, many able surgeons are approaching the conclusion that antiseptic surgery will eventually mean surgical cleanliness,* yet we must not fail to take note of the measures at present adopted by many distinguished and successful operators.

The recent letters of Prof. Nicholas Senn, of Milwaukee, (a reprint of which from the *Journal of the American Medical Association* he was kind enough to send me,) give the most recent and reliable statements at my command of the antiseptic methods practiced, and materials used, in many of the hospitals of Europe.

What a contrast to that which was seen in the same hospitals by your reporter twenty and twenty-one years ago, just as the revolution of Sir Joseph Lister was beginning to make its results apparent, and his methods beginning to be adopted.

At *Liverpool*, now, the spray is used rather for the purpose of irrigation rather than for the supposed effect in sterilizing the atmosphere. Sublimated wood-wool cushions are used for dressings.

At *Manchester*, the same general plan of spray and antiseptic wood-wool dressings are adopted.

At *Glasgow*, antiseptics in the treatment of wounds are not thoroughly practiced, though in use.

At *Aberdeen* the hands of the operator and the field of the operation are washed with soap and warm water and rubbed with a piece of pumice stone, then with spirits of turpentine, and lastly with a five-per-cent. solution of carbolic acid. The instruments are treated with turpentine, washed with carbolic-acid solution, and immersed in a five-per-cent. solution of carbolic acid. Dr. Ogston has been very successful in his laparotomies. The hands of the operator, the instruments, and the field of operation are the special objects of disinfection. "Dr. Ogston does not hesitate to walk from the dissecting-room, or after a course of operations upon the cadaver, directly into the operating-room, and perform any operation, and has never observed any ill results of such a course when the hands are thoroughly disinfected." In operations on bones he allows the cavity to fill with blood after removing Esmarch's constrictor; and an antiseptic dressing applied. He has observed no disadvantages from this course, the clot rather aiding in the reparation than acting as a foreign body and dangerous, as formerly taught.

In Mr. *Keith's* department, in Edinburg, the operating-room is disinfected before each operation with chlorine gas. The field of operation is carefully washed with a strong alkaline solution, for the purpose of removing all fatty substances, which, Mr. Keith thinks, are the carriers of the septic germs. The parts are then disinfected with a weak

*Sir James Paget, Senn's Letters, p. 37.

solution of corrosive sublimate. Sponges are repeatedly used, cleansed after every operation in an alkaline solution, and are kept in a five-per-cent. solution of carbolic acid. During operations they are kept in a two-per-cent. solution of carbolic acid. The spray has been abandoned, since which time the results have been better, if any difference, than before. Instruments are thoroughly cleansed after each operation, and during the operation are kept in a strong solution of carbolic acid.

In laparotomy operations, bleeding points are tied with catgut. Great attention is given to every detail in suturing the abdominal wound. Prof. *Annandall* uses a weak sublimate wash, and protective silk and sublimated cotton in his operations on the knee-joint. The details of antiseptic wound-treatment he considers superfluous.

At London, in *Charing Cross Hospital*, the spray is still in use, and carbolic acid is still used as an antiseptic. The spray has been abandoned at *King's College Hospital*. The corrosive sublimate and muriate of ammonia solution is the antiseptic used. In Mr. *Savory's* wards, in *Saint Bartholomew's Hospital*, no pretension is made to practice antiseptic surgery. It is rather aseptic (cleanliness); and "during the last eleven months only one case of pyæmia occurred, the majority of the wounds healing without suppuration." At *St. Thomas's Hospital* antiseptics are used, including the *spray!*

At *Guy's Hospital*, Mr. *Bryant's* favorite antiseptic is a weak, watery solution of iodine, which in his hands has given excellent results.

At Birmingham, Mr. *Lawson Tait's* home, we find him depending almost entirely upon cleanliness, without antisepsis. He is rather an aseptic surgeon. The abdominal wound is made small, and is kept closed as nearly as possible during the operation by the hand of the operator, a sponge, or the tumor or its pedicle—the operations are done, as nearly as possible, subcutaneously; and to this circumstance Prof. Senn ascribes, in large degree, his wonderful success.

Péan, of Paris, uses a $\frac{1}{1000}$ solution of corrosive sublimate for the field of operation and for the sponges, and a five-per-cent. solution of carbolic acid for the instruments.

At *Strasburg*, antiseptic precautions and management of wounds are rigidly enforced. "According to Dr. Koch, septicæmia is beyond the grasp of the pathologist in Germany, as antisepsis has succeeded in almost exterminating the disease in that country. I sympathize sincerely with the pathologists, but rejoice at the results obtained by Sir Joseph Lister and his followers in expunging from the catalogue of diseases one of the most fatal and fearful complications of the obstetrical and surgical wards." "In Prof. Freund's wards (lying-in department), the antiseptic precautions are so thoroughly carried out that puerperal sepsis has never been known to originate in the wards."

"In the face of these facts, who can doubt any longer the efficiency of antiseptic precautions in preventing infection? Who will dare to

ridicule the honest, conscientious surgeon and obstetrician in his efforts to protect his patients against infection? Who will have the courage to recommend a pad of infective germs as a safe dressing for penetrating wounds of the abdomen? Let history, science, and the combined experiences of thousands of honest physicians and surgeons answer these questions!" (p. 63.)

"All abdominal operations are performed under strict antiseptic precautions, with the exclusion of the spray." "*Fort mit dem spray*"!!

Kœberlé, (who is probably the inventor of the hæmostatic forceps,) while recognizing the importance of antiseptic precautions, relies on thorough cleanliness, and only uses a solution of carbolic acid for his instruments. He uses no ligatures for vessels; but disinfects the instruments in the flame of an alcohol lamp before every operation. The hands of the operator are thoroughly cleansed with warm water and soap, and then washed in a four-per-cent. solution of carbolic acid. He uses no sponges, but substitutes pieces of dry cloth rendered aseptic by boiling. His sutures are Chinese silk, immersed in a four-per-cent. solution of carbolic acid.

Burckhardt, of Stuttgart, uses thorough antiseptic precautions. The hands of the operator are disinfected with spirits of turpentine, and the instruments are immersed in a five-per-cent. solution of carbolic acid. As an antiseptic solution corrosive-sublimate is preferred. Pads of antiseptic gauze and cushions of sublimated wood-wool are used in dressing wounds.

At Heidelberg, in *Czerny's* clinic, corrosive-sublimate solution is used for irrigation; gauze compresses and sublimated wood-wool for dressing wounds. Antiseptic surgery is thoroughly practiced, and the temperature charts testify to its good effects; scarcely any rise in temperature was shown, even in the most serious cases.

At Würtzberg, Prof. *Reidinger* uses the sublimate solution $\frac{1}{1000}$, and strict cleanliness, and in excisions and amputations gauze dressings and rubber drainage tubes. Prof. *Schoenborn* does not believe in the antiseptic properties of iodoform. He, however, does believe in its valuable properties in keeping the wound dry, and its action in this manner is indirectly an antiseptic.

At Göettingen, Prof. *Koenig* uses corrosive sublimate solution for irrigation, and sublimated gauze for dressing. Before each operation the blades of the instruments are thoroughly wiped with an aseptic cloth, and their handles washed with a four-per-cent. solution of carbolic acid. Iodoform is used by him in all large operations, for he has not lost faith in its anti-bacillary effects.

Ruyter, of Berlin, has shown that, while iodoform may not prevent germ-growth directly, it has a decided antiseptic action, as when it is brought in contact with ptomaines a chemical change takes place which destroys the toxic effects of the products of the germs.

Prof. *Burns* claims that iodoform possesses direct anti-bacillary properties, and in support of his views states his experience with fifty-four cases of tubercular abscesses, by injecting a mixture of *alcohol*, *glycerine*, and *iodoform* after evacuating the pus, and out of this number forty recovered; and that as a further proof of its anti-tubercular effect, he has observed by careful examination, that a few weeks after an iodoform injection into a tubercular abscess, the bacilli had completely disappeared.

In *Volkmann's* clinic at Halle, "one of the best in the world," every provision has been made for antiseptic surgery. What are the results? Professor V. has treated 300 consecutive cases of compound fractures without losing a single case from septic infection. This is the result of antiseptic precautions in surgery in the hands of a master. "Corrosive sublimate and iodoform are the favorite agents. A small compress of antiseptic gauze is used for dressing wounds, and over that a large cushion of moss is applied." Dry dressings are his favorites. Moss is preferred to wood-wool or anything else. Such is his success that he prefers to make open section to subcutaneous division of the sterno-cleido mastoid, the adductors of the thigh and some other deep muscles, as the antiseptic treatment prevents complications, and through an open incision the opposing tissues can be more thoroughly and safely divided. In this same city the gynæcological and lying-in wards are fully abreast on antiseptics (cleanliness), "and as a consequence indigenous cases of puerperal sepsis are almost unheard of."

At Dresden, in Dr. *Stelzer's* clinic, sublimate solution is used for irrigating, and sublimated wood-wool for dressing.

At Prague, Prof. *Gussenbauer* uses a $\frac{1}{1000}$ corrosive-sublimate solution for irrigation, and four-per-cent. solution of carbolic acid for instruments. For dressing of wounds sublimated gauze compresses over which a copious dressing of dry aseptic hygroscopic gauze is applied, and over all a cheap impermeable rubber cloth.

Prof. *Nussbaum*, of Münich, was one of the first to practice antiseptic surgery, and to publish a work on the subject. Carbolic acid is the principal agent still used in the antiseptic precautions and preparations, and after-treatment. His results are very good, though the surroundings are not favorable. Prof. *Winckel* is much more careful as to external conditions.

Dr. *Garre*, of Basle, uses corrosive sublimate $\frac{1}{1000}$ to $\frac{1}{5000}$ as an antiseptic; and for dressings dry sublimated gauze, and sublimated wood-wool cushions. Catgut ligatures, by simply immersion in an alcoholic solution of sublimate, $\frac{1}{1000}$, seem with him to be a satisfactory method.

Prof. *Kocher*, of Berne, uses for irrigation $\frac{1}{5000}$ corrosive-sublimate solution. When stronger solutions are used, intoxication follows frequently. (Prof. Senn regards him as the greatest surgeon whom he had met.) Wounds are covered with a compress of sublimated gauze,

generally dusted over with iodoform just before it is applied, and over this a cushion of aseptic moss. For drainage, glass tubes or rubber drains are used. He now prepares the catgut as follows: Immerse the raw catgut in oil of juniper for ten days, then wash with sulphuric æther before transferring it to alcohol, in which it is to be kept.

Prof. *Julliard*, of Geneva, still uses the spray; and carbolic acid is preferred as an antiseptic solution.

From this collections of facts, selected from the valuable observations and "Letters of Prof. Senn," it will be seen that aseptic or antiseptic surgery has a permanent foundation; the various methods by which the end is attained vary from strict cleanliness with no antiseptic agent, to the thorough application of preventive measures (antiseptic precautions), such as the various solutions of carbolic acid, corrosive sublimate, and iodine, to iodoform in powder, gauze and cotton prepared in solutions and dried, or wood-wool or moss, such materials being used as are germicidal in their action when moistened by the secretions; or materials which absorb the discharges and by the drying process produce a condition incompatible with germ-growth. Prof. L. S. Pilcher, of Brooklyn, uses sacks of prepared and dried sawdust for the purpose of carrying out the idea of dry dressing, and incompatibility of germ growth. Silver wire, sterilized catgut, or Chinese silk taken from antiseptic solutions, are the materials used for ligatures and sutures. I have seen no mention in the "Letters" of a solution of biniodide of mercury as an antiseptic, an agent used in this country to some extent as a substitute for corrosive sublimate.

The most recent and reliable information on the subject of cleansing the hands perfectly, is referred to in the February number of *Annals of Surgery*, p. 153. The most successful plan seemed to be this: "The nails having first been carefully trimmed and cleaned from visible filth, the hands are cleaned for a minute or a minute and a half with brush and soap, especially the subungual space. The hands are then washed in not less than 80 per cent. alcohol for a minute, and then, before evaporation of the same, they are brought into a $\frac{2}{1000}$ solution of sublimate, or 3 per cent. of carbolic-acid solution, and washed for an additional minute. The advantages of the above are, first, the *certainty* of disinfection, the saving of time, the sparing of the hands, and, finally, the cheapness. By the above method either none or only one or two colonies (germs) were found in a culture. It is useful to know that in order to prevent decomposition of the bichloride in water, the author finds the following a stable solution and equivalent after months to a solution of sublimate in distilled water, strength on pro mille: To two litres of clean well-water, add ten c. cm. of an alcoholic solution of sublimate (1 in 5), and one gramme of acid aceticum, G. Ph."

Who could have dreamed, in 1867, that such a complete revolution in

the general management of wounds, whether accidental or surgical, would have taken place in the brief period of twenty years, and with such astonishing results? We do not suppose that the then enthusiastic Mr. Joseph Lister could have hoped for such results to be witnessed in his time. We cannot comprehend that so great a change can possibly take place in the next twenty years, else nobody would die except from shock of injury. I had reached this conclusion, for amputations of the thigh, more than twenty years ago.

It is, however, becoming more and more plain that blind hoping, without seeing the seat and extent of injury, is losing ground with the scientific surgeon of to-day; he prefers to investigate the locality, as well as the nature of the affection with which he is dealing, and apply his remedies accordingly, whether it be in abdomen or brain. (Cincinnati Lancet and Observer, vol. IX, No. 1, p. 31. 1866.)

SURGERY OF THE BRAIN.

One of the most frequent reasons for opening the cranial cavity is inflammation or abscess, one or both, of the contents of this cavity arising from diseases of the ear. Cases of this kind come so frequently within the observation and care of the general practitioner as to belong as much to the domain of general surgery as of that branch of it termed otology.

But a few years since, these cases were contemplated with considerable dread, mainly from the supposed impossibility of reaching the seat of the disease without inflicting fatal injury. The first important step in operative procedure in cases in which the tympanic membrane had been already perforated, was to open into the mastoid cells by trephining or chiseling, the object being to give drainage or free exit to the pent-up secretion, and also to gain access to the diseased structures external to the cranial cavity. Now, however, we find it wise to proceed deeper, even to the secondary results of the original auricular affection.

The diagnosis having been made reasonably clear, it is good surgery to proceed to ascertain the seat of the diseased action. The cerebral symptoms following inflammation of the tympanic cavity with involvment of the brain or its membranes, are now pretty well defined; and the more radical operation of opening the cranial cavity, under strict antiseptic precautions, has been performed sufficiently often and with results so encouraging as to establish the operation on as firm a basis as other operations on the brain.

A. Lucas and L. Jacobson report one hundred cases of operations for opening the mastoid process. "One side, 98 cases; both sides, two cases. Results: Cured, 57 cases; uncured, 31; died, 12. Of the 57 cases cured, 27 had an acute, and 30 a chronic middle-ear suppuration. (Nearly one-third, it will be observed, had a chronic ear trouble.) Of the deaths,

10 were chronic, 2 acute. Eleven of the deaths furnished post mortems; sinus, thrombosis and cerebral abscess, 3; sinus thrombosis and metastatic pyæmia, 1; tubercular meningitis, 2 (one of which had sinus thrombosis and pyæmia); purulent meningitis, 4, of which one had sinus thrombosis, and one with cerebral abscess and pyæmia in addition. In all twelve, death was traceable to the disease of the ear, and in none due to the operation." "The operations were made with chisel, hammer, and curette (Lœffel), and, although in eight cases the sinus transversus was opened, and in one the dura mater exposed, these accidents might have been avoided." (Satellite, Nov. 1887, p. 92.)

A striking case in point, showing the beneficial results of the radical operation in the case of brain abscess due to otitis media, is given by William MacEwen, of Glasgow; reported in *Lancet* of April, 1887, *Satellite*, November, 1887, p. 70. Some of the details of this case are of sufficient interest to be given here: Opening the mastoid process had been done without favorable results. Dr. MacEwen was called in consultation. Fetid discharge was then coming from the ear, and the patient was in a stupor. Abscess of the tempero-sphenoidal lobe was diagnosticated, and the operation at once proceeded with. The middle ear was disinfected, and the scalp cleansed. A half-inch disk of bone was removed from the squamous portion of the temporal bone, at a point one inch above and half an inch behind the center of the external auditory meatus, and the membranes incised; whereupon the brain tissues greatly bulged out. A hollow needle was then carried in a direction towards the eminence of the petrous bone above the middle ear. Gas and pus of a most fetid nature at once flowed freely when the needle had reached a depth of three-quarters of an inch. The needle aperture was enlarged with forceps, and portions of necrosed brain-tissue removed. Then the abscess cavity was washed out with boracic acid solution. A counter opening was then drilled through the base of the skull, just above the osseous boundary of the external meatus involving the squamo-petrosal suture, the membranes pierced, and the lowest portion of the abscess cavity reached by needle, and again washed out through this new channel. Chromicised chicken-bone was used for drainage tubes, introduced into both openings. The large disk was replaced, leaving only opening enough for drainage; boracic acid was thickly dusted on, and a dressing of sublimated wood-wool (paper-pulp) pads superimposed. Patient soon rallied; improvement commenced at once. All cerebral symptoms vanished. The wound was dressed weekly, and the tubes shortened as they were forced out by the granulations. Patient was well in six weeks."

Dr. Thos. C. Smith, of Washington, D. C., in the *Journal of the American Medical Association*, February 18, 1888, reports a "case of abscess of the cerebellum caused by disease of the ear." The necropsy shows plainly that nothing short of the radical operation could have

reached the seat of disease. This was a case following chronic ear disease, of many years' standing. It was under the Doctor's observation for some months. The final symptoms were drowsiness, then coma. "The diagnosis of intercranial abscess had been made. No paralytic symptoms existed at any time." He says the question may arise, "Why was not the skull trephined and the abscess sought out and opened?" As a reply he asks, "Where would the surgeon have applied his trephine? And with the post-mortem evidence before us, I ask whether an operation would have been beneficial, even supposing the abscess to have been correctly located before the patient was *in extremis?*" The necropsy shows on the posterior surface of the petrous portion of the left temporal bone an opening one-quarter of an inch in diameter which communicated with the tympanic cavity; this cavity again, was enlarged by progressive excavation of the bone, into a chamber an inch in length, and of corresponding breadth and height. Cerebrum normal. Left hemisphere of cerebellum, anterior half converted into an abscess." (*Remarks.* Specimens of prepared temporal bones were exhibited.)

Opening of the sinus transversus does not seem to be a fatal accident, eight cases having been reported during the operation without a single death. (Annals of Surgery, Apr. 1888, p. 288.)

In wounds of the soft parts of the head, scalp wounds, S. Ginger, in reporting for Czerny's clinic for eight years, directs that the soft parts should be thoroughly cleansed with antiseptics, two per-cent. to five-per-cent. solution of carbolic acid, or a one-per-cent. solution of corrosive sublimate. Then introduce sutures of silk or catgut. A drain or two should be introduced; iodoform dusted on, and cover the wound with antiseptic cotton, [or even absorbent cotton in sufficient quantity.] (Annals of Surgery, Mar. 1888, p. 27.)

I have been in the practice of dressing scalp wounds in this way for some years with the most satisfactory results; providing for drainage with simply a large-size surgeon's-silk. In cases, (even a contused wound with the poll of an ax, and the outer table injured,) after thorough antiseptic dressing and free drainage, union has taken place without suppuration.

In Czerny's Clinic, of 48 incised wounds, 33 united by primary union: "Of six wounds with large scalp flaps, two healed primarily. In favorable cases recovery from these wounds was completed in four to eight days. If the secretions of the wounds were profuse the Lister dressing was discarded, and open treatment with salicylic solution, or two per cent. of acetate of aluminum, was adopted." I had the pleasure of calling the attention of the profession to the acetate of aluminum as an application and disinfectant wash many years since; and for some purposes I have never found anything better. (St. Louis Medical and Surgical Journal, 1875, p. 653; New Remedies, 1876, p. 17.)

In the same clinic 23 cases of fracture of the cranial bones occurred; 14 of these required trephination, 9 of which recovered. The mallet, chisel, knife and scissors were generally used in these cases, rather than the trephine. The surgical operation was a strictly antiseptic one. "In all extensive compound fractures, the possibility of abscess must be considered. In all injuries of the head, where the brain substance is injured, psychoses and neuroses may develop subsequently. Strict antisepsis should be followed in all these cases."

Tumors of the cerebrum may generally be located with considerable certainty; much more than those of the cerebellum. The case of the former, recently reported in the *Medical Record*, (April 21, p. 450,) shows what definiteness is being reached in cerebral surgery; the case of tumor having been correctly located by Drs. E. C. Seguin and R. F. Weir, it was successfully removed. Also a second case, verbally reported at the same time before the New York Academy of Medicine, by Dr. Keen, of Philadelphia.

The specimen presented at the same meeting by Dr. Starr is evidence of some greater uncertainty in the locating of tumors of the cerebellum; and is nearer akin to the case of abscess reported by Dr. Smith, of Washington.

COMPOUND FRACTURES OF THE LONG BONES.

By the aid of antiseptic surgery *compound fractures of the long bones* are no longer assigned to the radical operation of amputation, even in bad cases. Volkmann's 300 consecutive cases of compound fractures, without the loss of a single case from septic infection, is an argument (in the hands of a master, it is true) in favor of the possibility of treating successfully cases of this kind to an extent formerly held to be impossible.

The manner of carrying out the method of antiseptic, conservative surgery in these cases varies with the views of individual surgeons. Possibly the majority of surgeons who especially favor the conservative plan, prefer wiring the ends of the fragments.

Dr. *Hausmann*, assistant to Prof. *Schede*, after opening the seat of fracture and removing all spicules of bone, thoroughly washing the wound with $\frac{1}{1000}$ solution of sublimate, bridges over the fracture by the use of one or more perforated metal splints. These are screwed down to both fragments, and are left till union is firm. Of course the open wound is treated antiseptically, and the fracture immobilized.

Prof. *Socin*, of Basle, according to Prof. Senn, introduces into the medullary cavity of the shafts an ivory peg about three inches long and about as large as the cavity. This peg is left to heal in. The treatment of the wound is antiseptic. The peg is depended upon to maintain the coäptation.

The case reported by Dr. *W. F. Wilkins*, of Ottawa, this State, is an excellent example of what may be done in many such cases by wiring. (St. Louis Medical and Surgical Journal, Oct. 1878; p. 217.)

It seems to me the time is coming when the lessons taught by these compound fractures will be followed, in certain cases at least, by making the simple or subcutaneous fractures open or compound, in order that perfect coäptation may be effected, and the least possible deformity result. I do not say the time has yet come for this treatment of long-bone fractures, but is coming. (*Remarks.* Specimens of fracture of the long bones wired, now exhibited.)

Fracture of the Patella, is an example leading in that direction. Dr. Wm. MacEwen, of Glasgow, has been making examinations and observations on the condition which results after a transverse fracture of the patella. He reports thirteen cases, eight of his own observation, in which examination was made and the præ-patellar soft structures were found intervening between the fragments in such a manner and to such an extent as to render osseous union a failure—a result not to be expected. The six conclusions, drawn in this very valuable article from his observations, are sufficiently interesting to be inserted here:

"The aponeurotic tissues are those which are most intimately connected with the fractured surfaces, and especially to that of the proximal fragment.

"They assume various forms:

"1. That of a flap tightly stretched over the anterior portion of the fractured surface of the proximal fragment and fixed firmly to its osseous irregularities, ending in a fimbriated extremity, some of the shreds of which dip into the joint, while others are broken off near the posterior border of the articular patellar cartilage.

"2. Shreds of greatly overstretched ligamentous structures lying in, and fixed to, the osseous irregularities of the fractured surface. These are more or less continuous transversely along the anterior border of the patella, but are scattered over the fractured surface as they approach the posterior edge. The lengths of these shreds are very varied, some not covering the whole fractured surface, while others not only do so but lie in the joint beyond.

"3. Occasionally there are shreds of overstretched aponeurotic tissues adhering by their extremities to both proximal and distal fragments, while in the center they fall into the joint in the form of long loops.

"4. In three instances bands of tissues existed which extended from the inner to the outer side of the joint running transversely. In the instance of this kind which fell under personal observation, the band which was stretched across the lower fragment slipped while an attempt was being made to place it front of the patella; it then lay between the joint and the bone. The lower fragment then became tilted

in such a manner as to make it impossible to bring the fragments into close contact while this band existed in that position. In one case (Mr. Hardy's) a similar band actually laid under the lower fragment when he opened the joint. In such cases it is difficult to see how coäptation could be secured without removal of the band. The existence of bands of this kind lying under the patella, but which have not been suspected, may account for the exceptional difficulty which has sometimes been met with, in approximating the fragments. Opening the joint, dividing the band, removing it, or replacing in front of the patella, and securing it there, at once removes the difficulty.

"5. The fractured surface of the distal fragment is generally much freer from aponeurotic tissue than the proximal one; but it also has its share. When the proximal one has a very large flap to cover it, the distal one is correspondingly free, though occasionally, when free aponeurotic tissue, it is covered by the ruptured bursal floor.

"6. The part of the fractured surfaces which is most free from these intervening structures is the posterior edge; hence, though it be impossible to elicit crepitation while rubbing the two fractured surfaces fairly against one another, it is often easy to do so, if the patella be tilted so as to bring the posterior edges together." . . . "As there may be difficulty in ascertaining, from external manipulation, the precise form of the fracture, it is more certain and safe to expose the parts by incision."

"*Circumstances Precluding Opening of the Joint.*—The patient's general health may be such as to render a cutting operation hazardous; therefore it is well to consider how best to carry out the attempt of removing the intervening præ-patellar tissues.

"*Suggestions.*—*First*, it ought to be borne in mind that osseous crepitation can be elicited by rubbing the posterior edges of the fractured surfaces together; but one must not therefore conclude that the whole width of the fractured surfaces are free, as it is frequently the case that the posterior edges are exposed, when the whole of the remainder is covered with aponeurotic tissue. *Second*, osseous crepitation may be elicited from the bony projections penetrating the aponeurotic tissue which lies close to the fracture; therefore, though osseous crepitation may be produced, one must not believe that the principal part of the aponeurotic tissues have been removed. *Thirdly*, the proximal fragment is the one which is principally covered by aponeurotic tissues, and therefore it should receive most attention. *Fourthly*, as the intervening soft parts fall over the edges of the fractures from before backward, one should endeavor to get rid of these structures by scraping the one fragment against the other from behind forward, so as to dislodge these tissues. This plan could not dislodge the transverse bands existing underneath the torn fragment. Exposure of the fracture by a longitudinal incision is the surest way of effecting this purpose."

He gives Prof. Cooper, of San Francisco, the credit of having introduced the treatment of fracture of the patella by opening the knee-joint, as early as 1861; and the reintroduction of this treatment to Prof. Lister. The fact of *the intervening tissues between the fragments* had not been recognized as the cause of non-osseous union; but the purpose had been to wire the fragments. Hence, I regard this full examination of this important problem as a real advance in the line of scientific surgery, for which the credit seems fairly to belong to Dr. Wm. MacEwen.

The fragments are accurately wired together; the wire left in about six weeks, then removed by untwisting, cutting off one end and winding the remainder around dressing forceps. (Annals of Surgery, vol. V., p. 177. See also Dr. John D. Rushmere, Annals of Surgery, vol. V., p. 401.) The same principles are applied, and for the same reasons, to fractures of the olecranon.

Prof. von *Bergmann* proposes, in cases of *old fractures of the patella*, to detach the tubercle of the tibia together with its attached ligamentum patellæ. The fragments are approximated and secured by catgut sutures. Apparently bony union followed, and the tubercle had also firmly united at its former site. The joint motion afterwards became, in the one case recorded, almost perfect. (Satellite, Nov. 1887, p. 75.)

Grittis osteoplastic amputation of the knee, as modified by Dr. E. Ried, has become also a practicable (possible) operation with the aid of antiseptics. In Dr. E. Ried's cases the mortality now is thirty per cent., whilst in preantiseptic days he lost two out of three cases. Preservation of the patella, giving a natural, round, firm stump for the support on an artificial limb, is greatly to be desired. (Annals of Surgery, vol. VII, p. 294.)

OPERATIONS ON THE CHEST.

Paracentesis thoracis, Pneumotomy, Pneumectomy, and Thoracoplasty, are operations performed on the chest, as the necessities of the various cases demand.

The more simple operation of extracting serum or pus from the pleural cavity is now resorted to so frequently as to attract little attention as a surgical procedure.

In 1869 I drew from a man's chest a large quantity of pus on two occasions; greatly to his benefit, so that he worked on a railroad in a malarious district for nine months. There was a reaccumulation of the fluid, and I then used the aspirator for the first time, probably, that instrument was ever used on the chest in the city of St. Louis. The patient was greatly relieved, so much so as to be able to attend to some light work, but his funds having been exhausted in paying his board, he went to the city hospital.

He entered the City Hospital April 4th, 1872. On the 20th of same month the record shows that "there was dullness on percussion over the right side of the chest, and bulging of the intercostal spaces of the same side; and marked dyspnœa. Paracentesis thoracis was performed with trocar and canula, and two and a half pints of pus removed. Three days later the intercostal spaces were again bulging. The operation was repeated, but no fluid came out. An incision of an inch long was made into the thoracic cavity and at least a gallon of pus evacuated, the material looking like a discharge from a hepatic abscess. A tent was inserted.

April 30: Patient was attacked with violent pain in stomach and bowels.

May 1: Was vomiting a green-looking material. He continued to grow weaker, sank, and died at 6 P. M., May 2d.

"The *post mortem* showed the right lung compressed into a lump about the size of the fist. The pleural sack had entirely disappeared. Ulceration had taken place through the diaphragm; pus was diffused into the abdominal cavity; and all the signs of inflammation of peritoneum were present. Died of pyothorax and intercurrent peritonitis."

This was a case which now would receive a different course of treatment. Antiseptics would enter the field, and this would be followed in due time by thoracoplasty, the Estlander operation, (Letiévant-Estlander.) This operation has for its object, not merely the evacuation of the contents of the pleural sack, but as the term is now used it means a plastic operation for the purpose of permitting the chest wall to come in contact with the contracted lung and form adhesions, and thus obliterate the cavity. It is a more serious operation than many suppose. Mr. A. Pearce Gould, in the *Lancet* of February 11, (Journal of American Medical Association, March 31, 1888,) has given some very judicious advice on the subject. The operation should be restricted to those cases of cavity of the chest in which nature unaided is unable to fill the space, unless the chest wall is rendered capable of yielding sufficiently to meet the inner boundaries of the chest cavity; then by granulation the cavity may be obliterated, and the drain upon the system with its serious consequences, arrested. The operation must vary with the case. "It is not a matter of removing a certain length of a certain number of ribs, but *all the ribs* lying in the wall of the empysema must be excised." So that only a soft and easily collapsing wall of soft tissues is left. Not only must this bone be fully removed. Lining the ribs, in these cases, dense cecriticial tissue, half an inch or an inch in thickness, is found, which is almost as unyielding as bone; it too, must entirely be cut away with scissors."

"Not *all* cases of chronic fistulous empyema are to be treated by thoracoplasty, for its dangers to life must negative it when there is

serious visceral disease and the vital powers are at a very low ebb." . . . "It is to be hoped that the cases requiring this operation will become fewer and fewer as the surgical treatment of empyema is resorted to more early and is more efficiently carried out. But for a small residue of very chronic and otherwise incurable cases of fistulous empyema, Estlander's operation, when thoroughly done, offers a good chance of cure. When once the necessity for operation is recognized, the sooner it is carried out the better, for marked exhaustion or serious visceral disease renders the operation too dangerous to be recommended."

At the recent Surgical Congress held at Paris, the subject of the treatment of empyema was discussed at length. Le Fort reported having performed Estlander's operation twice on one case without any definite result. He has been in the habit of measuring the progress of closure of the cavity by means of injections. On the last occasion, after about three ounces had been injected the patient suddenly lost consciousness. He was restored by means of electricity, but was found to have complete paralysis of the left arm, and partial paralysis of the leg on the same side, with considerable mental disturbance.

M. Thiriar had performed resection of the ribs nineteen times on thirteen patients in the last four years. Of these, eleven were cured of acute pneumonia, and one passed out of sight before the fistula had completely closed. He had performed the same operation in two cases of inter-labor pleurisy. In this affection there is a purulent collection formed between the contagious lobes of the lungs, and eventually the abscess opens into the lung, a purulent, fetid suppuration being established. The patients become more and more emaciated, and finally die. In these cases Estlander's operation is of very great service as a preliminary to pneumotomy. He had operated on two cases of this nature in which he had resected the ribs, opened the abscess cavity through the pulmonary tissue, washed out, and drained it thoroughly. The patients made a good recovery.

M. Berger called attention to the dangers of resection of the ribs. He had formerly regarded the operation as perfectly safe, even if not always curative, but he had recently had two cases of sudden death following it, and had in consequence become more cautious. In patients debilitated by age or long suppuration, or in whom the whole extent of the plural cavity was involved, he advised that (1) the ninth and tenth ribs be left intact, in order to interfere as little as possible with the respiratory movements; and (2) that only a few ribs be resected at a time, thus obtaining a gradual closure of the suppurating cavity.

M. Bouilly had performed the operation thirteen times in patients ranging from twelve to thirty-one years of age. The best results had been obtained in individuals between the ages of eighteen and twenty-

one years, in whom the chest walls were more flexible and accommodated themselves more readily to their new position.

M. Ollier spoke of the modification in the technique of the operation occasioned by the age of the patient. In the adult an extensive operation was demanded, but in the child a narrow section only of the bony wall should be removed. On account of the elasticity of the thoracic parieties this would allow of a sufficient sinking in while the danger of an arrest of development of the ribs would thereby be reduced to a minimum. In certain cases the bone was reproduced so rapidly as to necessitate a second operation.

M. Jules Boeckel has performed this operation twelve times, and had nine recoveries and three deaths. In two of the cases regarded as cured, however, there still remained a fistulous tract.

M. Delorm thought that the indications for the *Letiévant-Estlander operation* were far from being as well defined as it was desirable they should be. The unfavorable results which had followed the operation in certain cases, where success had been looked for and promised, had brought it into more or less disrepute. The cause of this failure in many instances was that the pleural cavity was too large to be closed by the falling in of the thoracic wall deprived of its bony support. A depression of three centimeters ($\frac{6}{5}$ in.) was the most that could be obtained by the operation. If, however, in addition to the ribs, the soft parts were divided throughout the entire length of the suppurating cavity, they could be folded in and thus be made to obliterate entirely the pleural space.

M. Vieusse said that the indications for thoracoplasty were to be found in the extent, age, and situation of the suppurating cavity, in the degree of retraction of the chest wall, and in the general condition of the patient. Success might at least be hoped for if the suppuration had existed for six months or longer, if the cavity were not of very great extent, if there were no more retraction of the chest wall going on, and if the patient were in a fair condition of general health.

Rapid formation of bone.—In young and robust subjects in whom this was to be feared it was better to prevent it by destroying the periteum for a certain distance. (Medical Record, April 21, 1888.)

Prof. Roswell Park has, in some extensive cavities, made resection of the ribs posteriorly and anteriorly, letting the middle portion of the ribs remain to fall in as a flap, by which the cavity may be filled. (Annals of Surgery, vol. V, p. 398.)

In these reports and discussions nearly every point has been brought out, as to the operative procedure, dangers of the operation, indications, etc. One suggestion which I have not seen offered by any operator, I have made for the diversion of the rib: After freeing

it of periosteum, slip under it a thin spatula (it may be of wood) and saw down into it with a fine-toothed saw. There will be less danger of necrosis following than if the section is made with forceps.

ABDOMINAL SURGERY.

Kidney. The kidney is no longer "beyond the reach of the surgeon's knife." This organ is honored with at least four operations: Nephrotomy, nephrectomy, nephroraphy, and nephrolithotomy. Cases of operation on the kidney for disease or derangement are constantly reported in the journals, and by the aid of antiseptic surgery they are done successfully.

The first great difficulty is in making a clear diagnosis.

The questions of nephrotomy and nephrectomy were reported on and ably discussed at the French Congress of Surgery in 1886. (Annals of Surgery, vol. V., pp. 269–75.) Trellat, of Paris, closed his discussion of the subject with these remarks and conclusions: "Certain cases positively indicate nephrectomy; such are persistent fistulæ, neoplasms which must be extirpated, and floating kidneys. The indications are not so clear in other cases, such as renal calculi and their consequences, hydro and pyo-nephrosis, etc. To-day the indications for operation cannot be positively settled; however, in case of tumors characterized by localized pain in the region of the loins and projecting there, the incision should be made in the lumbar region in such a way as to permit a simple nephrotomy, if this is sufficient, or a nephrectomy if necessary; the lumbar method in such a case becomes logically unavoidable; neither the transperitoneal nor the paraperitoneal methods are proper. . . . For choice of procedure then the cases divide themselves into two classes, (1) the inflammatory cases in which the lumbar incision is proper; and (2) all other cases in which the indication is less positive and more variable. 1. A great many cases imperatively demand the lumbar method with preliminary mephrotomy. 2. Other cases demand nephrectomy, and sometimes the transperitoneal, sometimes the paraperitoneal, and sometimes the lumbar operation is to be preferred. 3. Whenever the cellulo-fatty envelope of the kidney is indurated, subcapsular enucleation is demanded."

BLADDER.

Supra-Pubic Cystotomy.

Supra-pubic cystotomy has of late years gained much favor. Wm. Cadge, F. R. C. S., in the course of three most able lectures on the subject of surgical treatment of stone in the bladder, presents the following five conclusions:

"1. In children, litholapaxy should be more adopted than has hitherto been the custom.

"2. In male children, when the stone is at all large, the supra-pubic will probably prove safer than the perineal incision.

"3. In female children, litholapaxy should be the rule for small stones and the high operation for all large ones.

"4. In adult females litholapaxy, or dilatation and extraction should be adopted for stones of moderate size, vaginal lithotomy for those somewhat larger, and the high operation for large ones.

"5. In adult males, litholopaxy should be the rule for stones up to an ounce or an ounce and a half; above this, lateral or possibly supra-pubic lithotomy; supra-pubic for all stones weighing over three ounces.

"In the aged the same rules apply, when the organs are healthy, but when the prostate is large and the bladder atonic, supra-pubic lithotomy, until its success or failure is demonstrated." (Annals of Surgery, vol. V., p. 164.)

Dr. A. T. Cabot, of Boston, reported twenty-four cases of stone in the bladder operated on, with only one death; all cases of litholapaxy but two, viz., one lateral lithotomy, and one supra-pubic lithotomy. The fatal case was one of litholapaxy; and the cause of death given as bronchitis. Patient 69 years old. There were five cases of recurrence of stone in the number; two of uric acid, and three of soft phosphatic stones. (I here exhibit three specimens of stone, one removed in 1884, the other two from the same patient in 1886—just two years.)

Dr. C. M. Thomas, of Philadelphia, reports six cases of supra-pubic lithotomy. All recovered but one, a patient 70 years of age and greatly debilitated. The bladder was sacculated, inflamed, and the stone was in a diverticulum; in fact, the operation in this case, by any other method, would have been a matter of great difficulty, if not an impossibility. The method could not be charged with the result.

Dr. Frederick Lange, of New York, reports a case of a man aged 60, for whom he performed supra-pubic cystotomy, removing two calculi from a deep diverticulum; and at the same time he removed a portion of the enlarged middle lobe of the prostate gland. Recovery was perfect, and instead of being required to use a catheter, as he had done for years, he was able to pass his urine in a full stream. (Annals of Surgery, vol. V., pp. 554–8.)

MEDICAL JURISPRUDENCE.

BY HON. J. T. BRADLEY, TOPEKA, KANSAS.

I esteem it a great honor to be invited by the gentlemen composing your Committee of Arrangements to deliver an address before the Kansas Medical Society, upon the subject of Medical Jurisprudence; but that subject is too great for one brief lecture. It is a subject upon which many books have been written; a subject that belongs al-

most exclusively to your profession. Lawyers do not instruct doctors on medical jurisprudence. Law is a rule of action. Medical law embraces the entire practice of the greatest and deepest of all professions. You have studied the science of surgery and medicine in your colleges, in your books, by actual practice, by hard and sometimes bitter experience. It is a life study. You are called as experts to testify upon the subject, to teach courts and juries what the rule is in certain cases; what such and such symptoms indicate.

Lawyers get a smattering of the science in their colleges. They learn it in actual practice, in criminal cases, in contests of wills, in cases of insanity, in all cases arising out of the relation of the sexes, in questions relating to age, identity, presumption of survivorship, life insurance, and medical testimony.

Physicians are presumed to carefully study the science of medical jurisprudence. Lawyers only study the application of the science to questions arising in courts of law, for medical jurisprudence, as defined by the standard works on that subject, is that science which teaches the application of the practice and principles of medicine to the elucidation and settlement of doubtful questions arising for investigation in courts of law. It consists of a great array of facts gathered from study, from experience. It is a great science, but it admits of no clear, logical arrangement of the topics which comprise it. It is not itself a complete whole, to the production of which all the several parts conspire in a natural order. It consists of many different subjects or topics, mostly isolated, and having with each other few if any intimate connections.

We are not permitted to use any of your standard authorities in the courts. We are not allowed to read those authorities to courts and juries, because they are not written by persons under oath. Our Supreme Court in the famous case of "The State of Kansas *vs.* Baldwin," laid down the rule that medical and scientific books cannot be admitted in evidence to prove the declarations or opinions which they contain; but a witness who is a medical expert is not wholly confined to his personal experience in the treatment of men, but may give his opinions, formed in part from the reading of books prepared by persons of acknowledged ability; and it is not improper for him to give the source of his opinion, and to state that all the writers and authorities on the subject, so far as he knows, support him in that opinion.

That rule seems to be ridiculously technical, that a witness can swear to what he thinks a book tells, but that he can't read from a book. That is the way with most of our law, fine hair-splitting technicalities. There ought to be a postscript at the end of many a rule, saying "Please excuse the reasoning."

Frequently the question is asked by physicians who are called into the courts as witnesses, as experts in difficult cases, if they are not en-

titled to fees as experts, or in other words, if they can be compelled to testify as to their medical knowledge and experience without some proper compensation, allowance, or fee, more than ordinary witnesses.

The physician in the court room receives no higher compensation than the other witnesses. It is a duty that he owes to society to testify when he is called. It interferes often with his practice, and sometimes seriously discommodes him; but like other witnesses, he is compelled by the law, and for the purpose of determining the truth of a question, to make personal sacrifices.

There is rarely a criminal case tried but what physicians are called in to the trial, and very often their evidence is all-important in deciding a case.

A physician should never take the witness stand in any case without first refreshing his recollection and reëxamining his books. He will find the lawyers on the one side or the other, perhaps on both sides, thoroughly and carefully prepared on that particular case.

Any man — lawyer, judge, or doctor — will sometimes easily become confused by men whose business it is to confuse; and doctors, like lawyers, will differ, and on matters too that would seem to be settled. In my limited practice I have noticed this often.

I remember a murder case that was tried a few years ago in which there was no living witness but the defendant. He surrendered himself to the authorities, and stated that he had killed a neighbor in self-defense; that he was trying to corral some trespassing cattle that belonged to this neighbor, and the neighbor stopped him; that they were both on horseback; that the deceased put his hand around to his pistol pocket, as if to draw a weapon, and he, defendant, became alarmed for his own life, drew his revolver and fired twice; that when the second shot was fired, he saw the other wilt or droop a little in his saddle, and then ride away in an opposite direction. Defendant kept on driving the cattle, looking back once in a little while, and saw that the wounded man had ridden a distance of about two hundred yards, and was then just falling off his horse. The dead man was shot through the left ventricle of the heart. The evidence showed that the body had not been dragged by the horse, and the body was on land claimed by deceased. The majority of the doctors testified that death was instantaneous; that the man shot would have fallen instantly when the shot was fired; that he could not have ridden any distance, wounded through the heart; that syncope would have instantly resulted. Other doctors testified that deceased might have ridden two hundred yards after the shot was fired; that he might have done so living; that he might have done so in the rigidity of death. And they testified that the books showed instances of people walking up and down stairs after having been wounded through the heart. The jury found it was a case of murder; it was the medical testimony that did it.

A short time ago a prominent man was tried in Kansas for slaying a physician. He also claimed self-defense. At the time of the fatal encounter both men were armed. The doctor had his weapon in his pocket. The defendant claimed that deceased was about to draw a pistol when defendant fired the first shot, and other persons testified to the same thing. Three others heard the first shot, but did not see it, but they saw the second shot. They saw deceased falling with both hands up, and defendant taking aim and firing while the deceased was falling. Both bullets took effect in the face, one penetrating straight through to the base of the brain, the other ranging down into the throat. The doctors swore from the range of the bullets that the first was the one through the brain; that it produced instantaneous concussion and then death; that in all probability the hands must have been thrown up before that shot was fired; that such a position would indicate voluntary action, that a person wounded in that way might involuntarily, but not consciously, throw up the hands, but the probability was against such involuntary action. This evidence assisted in the conviction.

I was sitting as a spectator in the United States Circuit Court room the other day when the famous Hillmon Life Insurance case was on trial, and I noticed that physicians of high reputation differed there in regard to a question that it seemed to me ought to be well settled in this very old world of ours. Some of those physicians testified positively that the process of digestion ceased with death, others testified equally as positively that the process of digestion continued after death, and that the stomach emptied itself of its contents after death. Who was right? Some one must have been badly mistaken. Our system of medical jurisprudence could be made more reliable if the Government would aid in gathering statistics, the evidence in all such cases, and in publishing the cases by authority. Then these books could be used in court. But now no matter how reliable your books, how eminent your authors, we can't use them in court. The reason is because they are not published by authority of law; that they are not published under the sanction of an oath.

As a rule, you are only called into the court room as experts. Your relations to your patients and what you learn from them as such are strictly confidential. The law protects you and it protects them. No physician or surgeon can testify concerning any communication made to him by his patient with reference to any physical or supposed physical disease, or any knowledge obtained by a personal examination of any such patient.

A physician is in law an expert as to all matters embraced within the range of his profession. It is not necessary that they should be graduates of any medical college, or have a license to practice from any medical board, in order to render them competent to testify as experts in relation to matters connected with their profession. If it is

shown that the witness is a practicing physician or surgeon, it is sufficient evidence that he is competent to express an opinion on a medical question. He need not be a specialist; he is supposed to understand all about his profession, just as a lawyer is presumed to know the law — although it is sometimes a very violent presumption. But if he is a specialist, if he has devoted himself exclusively to one branch of his profession and has had no practical experience in that subject-matter to which he is called to testify; as, if an oculist is called to testify as an expert in insanity, his testimony would be inadmissible. And yet the general practitioner might have no experience whatever in cases of insanity.

It needs frankness on the witness stand. If a witness does not understand a subject he had better frankly admit it. It does not hurt him with thinking men. A quack will sometimes easily get punctured by a pettifogger, and a pettifogger by a quack; and the educated people of to-day are not easily humbugged. They can see through a disguise.

Human testimony, the best of it, is like humanity — weak and unreliable. There is constant room for improvement, for advancement in every walk of life.

Your profession has always been one of healing, of relieving, of pouring balm on wounds, of standing between life and its destroying angel, death. As long as men are mortal they must die. You cannot make life perpetual and everlasting — even he of whom you are disciples, old Æsculapius, himself, couldn't do that. The ancients claimed that he could raise the dead, and that he did raise the dead everywhere, and thereby offended Pluto, who began to fear that his realm, the realm of death, would not be sufficiently peopled. So Pluto complained to Jove of the innovation, and Jove slew Æsculapius with a thunderbolt; and since those days physicians have been very careful not to try to raise the dead — that is as soon as they become certain that the patients are really and truly dead.

I have touched but lightly on the great subject of medical jurisprudence. You who understand it will not wonder that I avoided it. It was from necessity.

I will now briefly call your attention to the condition of the statute laws of Kansas on the practice of medicine, or rather to the absence of any such laws.

You have a law passed by the Legislature of 1885, creating a State Board of Health, of nine physicians. No compensation of any kind is provided. That board can make recommendations as to the condition of public buildings, can register marriages, births and deaths, but can't regulate medical practice. It is wholly ornamental, and nothing useful about it. The only law you have relating to the practice of medicine consists of two little sections in the laws of 1870. It merely provides that any person who has attended two full courses of

instruction and graduated in some respectable school of medicine, either in the United States or some foreign country, or any person who can produce a certificate of qualification from some State or county medical society, and is of good moral character, can practice medicine. Also that persons who have practiced for ten years continuously without any certificate may continue to practice, and those who have practiced five years continuously are allowed two years in which to get a certificate.

This is not regulating the practice of medicine. There is no authority here to examine anyone or to test the qualifications of anyone; a certificate from any State or county medical society, a diploma from some cheap and worthless school.

Your Society is the oldest medical society in Kansas. It was chartered by the Territorial Legislature of 1859, and by the act of incorporation it was endowed with the attribute of perpetual succession forever, but your powers are too limited. You can prevent any unworthy man from being a member of your Society; but you cannot prevent any such person from practicing in your school of medicine. You can and do elect your own officers, and you can elect such persons to membership as you judge proper, and you have the power by a two-thirds vote, at any regular meeting, to expel, suspend or disfranchise any member whom you deem unworthy.

You also have the power to grant licenses to all respectable physicians, non-graduates, whom you find on examination to be qualified for the practice of medicine and surgery, to practice the particular branch or branches for which you find them qualified; and your local auxiliary or county societies have the same power.

You have endeavored earnestly to secure appropriate legislation governing and regulating the practice of medicine and surgery in Kansas, and by forming an alliance with the Eclectic and Homeopathic Societies, you succeeded in 1879 in obtaining the passage of a law governing the practice of medicine in Kansas; but it was not very carefully drafted, and was, for technical reasons, declared by the Supreme Court to be unconstitutional.

It could be reënacted with a few changes to adapt it to our constitution, and would then be a very useful and beneficial law. That act was in substance as follows:

It created three boards of medical examiners, each board to be elected annually, one board to be elected by the Kansas Medical Society, one board by the Eclectic Medical Society of Kansas, and one board by the Homeopathic State Medical Society. Each board to consist of seven members. No person could practice medicine or surgery in Kansas without having a certificate from one or the other of these boards. Three ways were provided to secure such certificate:

1. To present a diploma from some medical institute, and to prove

by the affidavit of the applicant that he was the lawful possessor of the diploma; that he was the person named therein; that the diploma was obtained in the regular course of medical instruction, and without fraud or misrepresentation of any kind, and that the medical institution granting the diploma had at the time of granting the same a full corps of medical instructors, and was at the time a legally incorporated medical institution, actually and in good faith engaged in the business of medical education, and in good standing as a medical institution, and that the applicant had complied with all the requirements of such institution. The board had authority to take such further testimony as it might deem proper as to the identity of the person named in the diploma, and as to the manner in which it was obtained, and if it appeared that any fact stated in the affidavit was false, the application for a certificate was to be rejected. No board could entertain an application which had been rejected by either of the other boards, and no rejected application could be renewed until one year after such rejection.

2. Persons who had been practicing medicine continuously in Kansas for five years prior to the passage of the act, were to receive certificates upon proof of such continuous practice.

3. Each board could examine persons not licentiates or graduates, and issue certificates to and admit such persons to practice.

A $5 fee was charged for each application, and a fine of $20 was assessed for presenting a fraudulent certificate, and a fine of from $50 to $500 and imprisonment from thirty days to one year was the penalty for practicing without such certificate.

Filing the certificate or diploma of another, or making a false affidavit, was a felony.

Lists were sent to every county clerk in the State, of persons receiving certificates.

Each physician was to record his certificate in the office of the county clerk in the county where the physician resided.

Each of the three medical societies mentioned in the act of 1879 appointed an examining board, and they commenced operations under the act. Mr. Willard Davis (now deceased) was Attorney General at that time, and he commenced an action of *quo warranto* against the Kansas Medical Society, to test its power, and also to test the constitutionality of the act of 1879. It was claimed by the State in that action that the *charter* of this Society, having been granted by the Territorial Legislature, had expired when the Territory became a State. That it was void because it was perpetual and forever, because there was no time fixed when it should expire. It was also claimed by the State, that the act of 1879 providing for the creation of the Boards of Medical Examiners was unconstitutional; that it was in conflict with section 1 of article 12 of the State constitution, which

declares that the Legislature shall pass no special act conferring corporate powers.

The opinion of the Supreme Court was delivered by Chief Justice Horton. He declared the first point was not well taken. He held that the Kansas Medical Society was a live institution; that it was perpetual and immortal, so far as the law could create immortality. But he held that this act of 1879 was unconstitutional; that it conferred special corporate powers on three societies and no others, and was therefore invalid. The court clearly decided in that case that the State had the power to provide for boards authorized to examine persons seeking to be admitted to practice medicine; and that the act would not be invalid if confined to persons, societies, or associations not incorporated.

We have no law in Kansas governing the practice of medicine. There is nothing to prevent or punish quackery or fraud. The science of medicine is the greatest, deepest, most abstruse, complicated and difficult upon the face of the earth. Although as ancient as the oldest of the arts, it is only of late years that you have called the practice of medicine a science. Surgery has long been a complete and perfect science. In medicine and all that appertains to it there have been wonderful developments within a hundred years. And it affects the whole people. It concerns the health, the happiness, the reasoning powers, the lives of all. The physician's office is a more sacred office than that of any priest, no matter how white-robed he may be, or how holy the altar at which he practices.

Law is a luxury, medicine is a necessity. A man can go through life and be great, wealthy, prosperous, and leave his mark upon the world, and never need a lawyer, never have any business in a court room, never even be badgered as a witness; but he meets a physician at the threshold, at the dawning of life's morning, and at life's evening when he is going down into the shadows of death, a physician is at his side.

When illness, accident or injury comes to those he loves, when his heart is touched, his soul, for the time being, lifted up, sanctified and purified by the suffering of some one dear to him, he turns to the Supreme Power for help, and next to that great power he looks for comfort, aid and help to the quiet, unpretending, educated and honored physician of his family.

The profession is full of deserving, honorable men, but as long as there is no law governing its practice, protecting it and protecting society, quacks will creep into it. It is true that no law will or can make a physician; that requires mind fitness, nerve, thought, sleepless, untiring work. The physician makes himself, but a law could be enacted that would require a thorough course of study, careful preparation and rigid examination, necessitating a certain fitness before permitting the person to practice.

In England a statute gives the body of medical practitioners pow-

ers of self-government so far as regards qualifications and training. All duly qualified persons are now registered, and the register is published. Those who are not registered cannot fill certain offices, and cannot sue for their fees. Before this law was passed, physicians could not sue for their fees; they were on the same footing as barristers formerly, the fees being considered as merely honorary, which ought to be paid beforehand, and at all events were not considered a legal debt. This act also punishes quacks by giving power to justices of the peace to punish with fine or imprisonment those who falsely pretend to be or take or use the name of physician or surgeon of any kind or character.

The English statute would be infinitely preferable to no law at all. It would be an easy matter for you to secure reasonable, necessary and appropriate legislation at the next session of the Legislature. The people of the State have confidence in the physicians, they are interested with you in the passage of a wise law on this subject. Only quacks would oppose such a law.

I said the people had confidence in you. Why, only the other day a carpenter in one of our villages was making a coffin; a friend came along and asked who was dead. The carpenter replied that no one was dead—that he was making the coffin for Mr. Williams. "Why," said the friend, "Williams isn't dead." "No," said the carpenter, "he ain't yet, but the doctor says he will be dead inside of twenty-four hours, and I reckon old Dr. Kellogg knows what kind of medicine he give him."

PROGRESS IN OBSTETRICS.

BY N. T. P. ROBERTSON, M.D., HUTCHINSON, KANSAS.

In attempting to give a thorough review of all the improvements and discoveries in obstetric science up to the present time, it would be necessary to have a thorough acquaintance with all the literature that has appeared on this important subject during the last few years. An acquaintance with books on this subject is not all-sufficient to enable one to give a complete résumé of all that is of importance to the student, or busy practitioner, but the journals and periodicals of the day often foreshadow that which we subsequently find incorporated into standard works, and which it is necessary all should know, who desire to be thoroughly informed.

But an acquaintance with books and periodicals does not constitute the sum of all knowledge. Indeed, they are but the beginning or the foundation of that superstructure which, as obstetricians, we hope to

build by patient thought, perseverance and experience; and although we acquire all the knowledge of the present age, that compared to what we do not know, is as a very minute particle of sand to a world as boundless as the universe.

Every physician, in addition to what he has read and been taught, has his own particular views on different medical subjects, and his own individual way of doing many things not laid down in text-books. These sometimes stamp the man as a bungler, at other times a genius, eminently practical, whose observations and experience lead to advanced ideas and new discoveries and improvements.

Every physician, surgeon or obstetrician has his strong and his weak points; and each one, whatever his attainments in general may be, is in possession of some knowledge that it would be well for all to know, and so the difference in regular doctors is principally in the predominance of strong points.

I shall not attempt a complete or lengthy summary of the improvements in obstetrics, but do what I think will be far more agreeable to you, and more pleasant to me, by giving a few thoughts and quotations as they may occur, or the subjects indicate.

In my remarks on natural labor, I shall mention antiseptics, anæsthetics—general and local—ergot, quin. sulph., biborate of soda, morphine sulph., and antimony. Further on I will allude to versions, prolapse of the funis, placenta previæ, convulsions, and last, but not least, to instrumental delivery.

In natural labor, I have nothing now to offer in general management, dress, or position, but antiseptic treatment is more common than it was formerly, and is growing more so daily. A one or two-per-cent. solution of carbolic acid, used as an injection into the vagina when the lochia becomes offensive, or from the first if you have reason to suspect there is septic contamination conveyed to the patient by any external means, during labor or the delivery of a decomposing fœtus; then antiseptic injections should be made within the uterus at once and repeated two or three times a day for several days. A more popular and less offensive antiseptic is a solution of bichloride of mercury $\frac{1}{2000}$ or $\frac{1}{4000}$, which approximates grs. iv., and grs. ij. to the pint of water. These injections should be warm at all times, and used several times each day.

The editor of Charpentiere's great work recommends solutions of the bichloride from $\frac{1}{1000}$ to $\frac{1}{4000}$. He also recommends a three-per-cent. solution of carbolic acid, but prefers the bichloride solution $\frac{1}{2000}$ and for routine purposes $\frac{1}{4000}$. From the same source we learn that intra-uterine injections are advocated and practiced by Weber, Reigel, Radeke, Spiegelberg, Fosbender, Schroeder, Weisl, Duncan, Wausman, Winckler, Fehling, Felatoff, Herder, Kolbe, Meissner, Crede, Leopold, Ahlfield, Fürst, Henning, Fritsch, Münster, and Richter. The principal articles used were hydr. bichloride, carbolic acid, salicylic acid, and permanganate potass.

Playfair uses carbolic acid, Condy's fluid, and tincture of iodine largely diluted with water.

The tendency to the use of anæsthesia in labor is steadily increasing; the demands on the part of patients, more pronounced, and physicians are becoming more confident of its utility and safety; and when the two principal actors in a drama of this character are agreed, there is reason for supposing the practice will become more common. The agents used are chloroform, ether, and bichloride of methylene, but chloroform is generally preferred and used. I prefer an anæsthetic made after the following: Alcohol 1 part, chloroform 2 parts, and ether 3 parts. This is very effective, and not as depressing as chloroform.

Playfair does not recommend chloroform in the first stage of labor, but recommends, where it is used, that extra precautions be taken to guard against post-partum hemorrhage, which he thinks is often induced by the relaxation following its use.

Charpentiere does not favor the use of chloroform in normal labors. but is very favorable to its use in surgical doses in all obstetric operations. He prefers chloral hydrate by enema in the earlier stages of labor, but admits chloroform when expulsive pains come on.

As a means of relieving the sharp, cutting pains attendant on the first stages of labor, the use of a four-per-cent. solution of hydrochlorate of cocaine will give relief by injecting it within the os by means of a long-nozzle syringe, or wrapping absorbent cotton around the index finger, having it saturated with the solution, and introducing it within the os in the absence of pain. This will also relieve the hyperæsthesia of the vulva and vagina, that we often find in primipara.

Another means of relieving pain, which has grown on me with advancing years, is the use of morphia and antimony. When the anterior lip of the os becomes wedged between the child's head and the pubic bones, I have witnessed the most acute suffering it has ever been my lot to see. For this excruciating pain, in the absence of anæsthetics, I use morph. sulph. gr. j, antim. et potass. tart. gr. ij. aqua pura, f. oz. 1½; mix, and give a teaspoonful every ten minutes till the patient is relieved. The anodyne and relaxing properties of the mixture soon relieve the agony, and generally the labor progresses rapidly to the close. Given in this way the morphia seems in no way to retard the labor, but appears to inspire the patient with new courage, and stimulate her to renewed efforts.

I now approach the item, or article, in this division of my subject, which has probably caused more unnecessary suffering, more accidents, more complications and more deaths, than any other factor in the armamentarium of the obstetrician. I allude to the *secale cornutum*—ERGOT. And yet, the fault is not in the drug, but in the injudicious use of it. If it were never used except when the indications were all

clear, we would seldom have occasion to know, or reason to believe, that a child, a mother, or both, had been sacrificed by its use in the hands of an ignorant and reckless charlatan. Believing that I understand the action of ergot, and its power, and knowing the unscientific manner in which it is often administered, I am surprised that we do not hear of more victims being sacrificed. But, as there is no oxytoxic that can be as surely depended on, it must still remain at the head of that class of remedies, while we ardently hope the future may produce something better. Quinia in large doses has a stimulating effect on the uterus, through the excito-motor nerves; and in cases wherein I doubt the propriety of using ergot, I sometimes use quinia satisfactorily, and thereby give my patient the benefit of the doubt.

There is one more remedy I cannot forbear to mention. I mean borax, or biborate of soda. Let me here tell you, that I never used ergot with a primipara. I never use it where there is a malposition, or any deviation from a normal labor in any case—except, perhaps, in placentá previæ. But if I need anything to give power to the uterus in such cases, I use quinia, or borax, and they never disappoint me, especially the latter. Twenty grains (gr. xx.) given every twenty minutes till three doses are taken, bring on strong clonic contractions, which speedily complete the labor, without the terrible risk attendant upon the use of ergot. The only advantage in ergot over borax is the tonic contractions that follow its use, and thereby acting as a safeguard against the possibility of a post-partum hemorrhage.

In prolapsus of the umbilical cord there is nothing in Charpentiere, but Playfair gives a cut showing T. Gaillard Thomas's method of replacing the cord by putting the patient in the genu-pectoral position: then by gentle pressure on the cord and its own weight it regains its normal position, and another child is saved. Having had some experience in these cases, I would advise that the woman be retained in that position until after several pains have passed; then let her regain her position in bed very quietly, for a sudden jolt or quick motion might cause the cord to descend again if the head is not well engaged in the superior strait.

On the subject of versions, Charpentiere divides it into internal, external, and combined, or bipolar version. He also gives plates from Braxton-Hicks, showing the mode of performing combined cephalic, or podalic version, and also plates showing the external manipulations in head or breech presentations, likewise how to perform version before or during labor. On the whole, you will find the article very instructive, and well worth the time spent it perusing it. Read it.

The treatment of placenta previæ has taken a step forward by advanced thinkers. Plairfair, Fritch, Charpentiere and others deprecate temporizing, and recommend the induction of labor, and delivery of the child as soon as it can be done, thereby increasing the chances of

life to both mother and child, and not subjecting them to the drain that must necessarily attend temporizing, and which so often results in death to both. After the os has been dilated as rapidly as possible, the hand may be introduced for one of two purposes: either to separate the placenta on one side, if it has a lateral implantation, and deliver by podalic version, or in a case of central implantation, to separate the placenta entirely and allow it to descend into the excavation, thereby serving as a tampon to the bleeding surfaces. This is my way, and you may profit by doing likewise.

Although placenta previæ is the most formidable and dangerous complication attendant on pregnancy, yet a patient in puerperal convulsions would look to be in a far more dangerous condition. The pathology of puerperal convulsions still remains unsettled, and while that is the case, our treatment must remain more or less empirical. Bleeding, chloroform, and chloral hydrate each has its advocates, and in well-selected cases either may do good. I believe I have had the hardihood to use them all in one case, and yet the patient got well. Bleeding is indicated in the great majority of cases, and I might say in nearly all. In many cases it is the sheet anchor, and your patient will die if you do not bleed her. Chloroform and chloral are splendid adjuncts, and in some few cases may be sufficient to bridge the patient over the dark gulf, but I should be afraid to risk it. I have bled all my patients, and all recovered.

The use of instruments, like the administration of chloroform, seems to grow more popular each year. The minds of the people are becoming better educated in regard to their utility; and they are learning that a timely application of the forceps not only relieves the patient of a vast amount of suffering, but often, when judiciously used, saves not only the life of a child, but sometimes the life of a mother also.

When I was attending medical college, our professor of obstetrics took great pains to impress on our minds the great risk and danger incurred in using the forceps, and so strong was the impression on my mind, that for seven long years I never applied the forceps but three times, and that when I was doing a practice of one hundred or more cases in a year. Many times have I sat by a patient for hours, waiting patiently for the termination of the labor, with two pairs of forceps rusting in the office, when by their use the labor could have been finished, in perfect safety, in the space of fifteen minutes.

We were also taught never to take the forceps when called to an obstetrical case, for fear that the patient or friends, by their entreaties, might induce us to relieve the suffering by using the forceps, when there was a strong probability that, if you would wait long enough, the labor would terminate in the natural way. But now things are changed wonderfully. We take our forceps with us, and anxiously wait for the time to arrive when we can use them, nevermore dreaming that there

is any danger to the mother, and knowing there is but little to the child. The practice of the present day is to relieve pain, and we carry chloroform for the immediate and forceps for the remote.

CELL PHYSIOLOGY.

BY JAMES A LANE, M. D., BRAMIN HILL, WYANDOTTE COUNTY, KANSAS.

Haller, in his Elementa Physiologia, believed "the fiber to the physiologist was what the line is to the geometrician;" then in the latter part of the last century a reaction arose against the fiber, and many philosophers believed with Milne-Edwards, that the "globule" was the center about which all theories and speculations were to cluster. These globules may still be observed with any inferior instrument, with any form of matter, and they will stand forth now beautiful in rainbow tints when examined in the full glare of the sun, just as they did then.

These views were long entertained by a very respectable number of philosophers, and even after the identity of the cell was established, they tried to generate it from these points (globules) about which seven-hued light was dispersed in glorious spectral beauty. They were right in this, at least, that the type of being is spherical.

Now, I will here omit twenty or thirty unwritten pages that might show the wonderful advance of medical science dependent upon our cell-knowledge revealed by the microscope; but, like Marcus Antonius, I would "tell you that which you yourselves do know." Physiology of today is cellular, and so long as cell-activity is physiological the physicians need take but little interest.

During the short life of M. F. X. Bichat, began and ended Histology, which at his death, 1802, was wonderfully near perfect, so far as the scalpel was concerned; he discarding the imperfect lenses used by Malpighi and Leeuwenhock.

Many of the founders of modern histology still live and work among us. In this new era of histological research we owe so much to Schwann, and Schleiden, to J. Müller and Virchow, also to Ehrenberg, Perkinge, R. Wagner and Heule, Remak and Kolliker, Conheim, Recklinghausen and Rinderfleisch, that at least some of their names should be mentioned.

Cellular pathology is removed but one step from cellular physiology, and as a science is fast finding votaries. Medical men, progressive ones I mean, should unite in an effort to vindicate the dignity of a subject upon which so much of the real progress of modern medical opinion depends. It is a young child, but insists upon recognition,

and the radiant glow that lights up the face of the "thoroughly practical" pitying doctor, when anything about cells is mentioned, will soon cease to illuminate.

Our best physicians always have held advanced views of pathology. Pathology of to-day is cellular, and a conception of it implies cellular physiology. Now this implies knowledge of the cell, first origin, career, and geographical distribution. It must be considered physically, anatomically, and physiologically. Physiologically it presents a many-sided relation to the biologist.

The aim of medicine is progress and precision. We must observe, compare, then hypothecate, and then do that which so few of us find inclination or opportunity or convenience to do—we must *prove*. In the meantime, while the great army of medical philosophers find work for their zeal, and encouragement and remuneration sufficient for their abor, we must content ourselves to practice medicine rationally, at the same time to observe, compare and hypothecate, proving where we can.

Cell physiology, depending as it does upon the microscopically minute, is a most complex problem for investigation. We are ever driven back from complex biological forms to the more simple. Cell physiology implies also histo-chemistry, which is yet in its infancy; and in this connection the names of Müller, Seebold, Frey and Leidig will never lose their luster.

Concerning the origin of simple forms of life in remote nooks of nature, many theories from time to time are still put forth. The gordius is still believed to originate from horse hair; bacteriæ to spring spontaneously wherever physicians congregate; and maggots, a few years ago, were held to spring *de novo* from putrid flesh; fungi, even to the size of uridinaceæ, were, until just recently, produced from modified forms of other organizations. Every organized being is a community—every man is a colony of little living beings which, like himself, thrive best only when in relation to other similar beings. Cells are physiological entities in health; pathological in disease. They are not the smallest form, element, or anatomical unit, but they are the smallest and only physiological units—*they are living beings*. In the struggle for existence cells are governed by just the same laws of life that govern aggregate beings. A continual strife exists; no cell dies simply to thicken the crust of the earth. But its high and unstable chemical compounds are reduced for or by the agency of other cells, that grow at the expense of its existence—animal or vegetable as the case may be, each preying upon the other, ever destroying the vital equilibrium in the particular, yet ever preserving it in the general.

The world is peopled with little beings called cells. In a free state they walk without legs; taste or discriminate between different food-stuffs; are born, take in nourishment, grow, proliferate, and die. These cells are gregarious in their tendency. It seems to be not good for them to live

alone, and most of them dwell in communities which we commonly refer to as animal or vegetable beings, according to our notion of classification.

Under these social conditions, like individuals of our own species, their functions tend to become specialized and developed in some one direction at the expense of suppression in some other. All functions of living matter are either (1) sustentative, (2) generative, (3) correlative, the latter not always present as in fungi, etc.

Generation invariably means detachment of a viable portion of a preexisting being.

Development is progress from general to special—morphologically as well as physiologically.

Now, ladies and gentlemen, there are not too physiologies. There are not two pathologies. Low forms of life are the simplest. . . . Hunter and Paget established the science of deviations by descending in the scale of being with their experiments, not ignoring to learn of abnormal cell physiology even in plants, where heart and nerves do not complicate. . . . As to origin, it must be admitted that these physiological entities did once come into being from organizable, but from unorganized matter. We assert this without claiming that it can be now proved, though it may occur every day. "Those who maintained that direct proof had been given of generation without parents, have been driven back step by step into narrower territory, and upon minuter and at last upon the minutest objects, from simple organic matter to the organized minimum, the 'atome structure vivant.' In other words, they were reduced to seek the proof where it is still the most difficult to say whether it is to be found or not." The study of the origin of fungi, the investigations of Pasteur and others, lead the scientific mind to well-fixed notions as to possible origin of species; but that there is not nor ever was a living being without parents, is a maxim of experience.

The total of any existence is the sum of the cell-activities.

Structural features must here be omitted, though no doubt differentiation of structure is invariably associated with modified function. Physiology of cells in general is that of protoplasm, but progress in any direction means specialization of activity, in some cells in one direction, in some another. Whenever a modification is such that the general welfare of the body is promoted, such modification is preserved and is transmitted and the modification perpetuated. The lower the plane of organization the simpler the process; hence, monocellular beings, or free cells of multicellular beings, either plant or animal, are studied most advantageously.

One physiological activity of cell-life is the appropriation of nutriment, and by a metabolic action making low stable chemical compounds an integral part of its protoplasm. Thus, not only nutrition

and growth are secured, but the storing up of potential energy by conservation of high unstable chemical compounds. This energy may be set free in the organism by the reduction of these high compounds to simpler ones and the force thus evolved be made manifest in motion, as evinced by the contractile energy of the protoplasm, in heat and light, or electricity, reproduction, etc.

The capacity of different cells for rendering available this energy, which is correlative, by the constant rebuilding of their protoplasms from inert matter, varies greatly and is modified by the entire environment of their existence.

When cells exist in colonies, or rather when a cell becomes a colony, as we all existed first as a single cell, the chances are as one to infinity that no two cells can in every way be subjected to the same environment, and therefore variation in form, size, shape, chemical constituents, opportunity, relation to nutrient channels, etc., must ensue. By these structural and functional changes, division of labor among them has been established, and found advantageous to the body politic, and they enter the role of special workers. The degree to which this can be carried on has no limit short of the highest psychical effort of perfect man. Some of these specialized cells of the highest type live such dependent existences, that they commonly functionate in relation to other cells, as nerve and muscle, for example, while others, as leucocytes, seem to be quite independent, though there may be social bonds of union which our coarse eyes do not yet discern.

INDIGESTION.

BY R. E. M'VEY, M. D., TOPEKA.

Good digestion is a complex process, and requires a high degree of vital and nervous force to transform and vitalize the various forms of food necessary to build up and maintain the tissues of the body. The glandular secretions which act upon the food are products of living cells, and their action has no resemblance to ordinary chemical affinity. They are physiological in character and derive their vital endowments from the nervous system.

The secretory cells are supplied with nerve fibrils, and are closely surrounded by a net-work of blood vessels. The digestive secretions are alkaline in character, except the gastric juice, which is acid.

The ferments found in the secretions are not chemical, but vital in their action. In the saliva is found *diastase*, a ferment which corresponds to that found in barley; in the stomach we have *pepsin*, which

has the remarkable property of dissolving and peptonizing albuminoids; in the pancreatic juice, which is an alkaline secretion, is contained *trypsin*, which transforms proteids into peptons, a curdling ferment which coagulates milk casein and pancreatic diastase, and which changes starch into dextrine and glucose, and an emulsive ferment which emulsifies fats; and in the intestinal juices we have invertine, which converts sugar into inverted sugar, and a curdling ferment which coagulates casein.

Before food is fit for assimilation and nutrition it has to undergo transformation by the secretion found in these cells, which are abundantly supplied to the mucous surfaces of the stomach or alimentary tract. The animal ferments and the secretions in which they are found correspond to the variety of foods which are necessary for the wants of the system. As the glandular secretions of the alimentary canal do not have a definite chemical formula, they may vary in quantity or in quality within certain limits in the act of digestion without lowering the vital tone of the system. They are modified, however, by seasons of the year and by variations of temperature, without impairing their efficiency in any essential degree. But if the vital tone of the system is lowered beyond the normal standard of health by functional disturbances from any cause, there may be incompleteness of fermentation in some part of the digestive apparatus. But frequently the vital tone of the system is lowered from those more recondite causes, from alterations in the nervous system, which cannot be demonstrated like organic changes with which we are more familiar. The great sympathetic, nervous system is in close relationship with the secretory cells and glands of the stomach and intestines. The digestive secretions as well as the appetite vary from emotional conditions of the mind, being either increased or diminished. Nervous exhaustion is a frequent cause of indigestion among those subjected to severe mental strains. In a country like ours, where industry is rewarded by high social position, there will be both mental and physical exhaustion; the nervous force being used up in thought. The gastric secretions are diminished or irregular from deficient vital energy.

If in this condition sufficient food be taken for the wants of the system, portions of it will remain in the stomach beyond the usual time and undergo fermentation, irritating the sensitive nerve fibrils, and producing discomfort or pain.

Poor and insufficient food, especially if badly cooked, is a prolific source of indigestion. Food which is lacking in constructive principles, such as the albuminoid principle, if long continued will result in anæmia. When the stomach is overtaxed in the digestion of hard and indigestible substances the hyperæmic condition of the mucous membrane is continued and intensified beyond the requirements of normal digestion. The blood vessels which are supplied to the mucous surfaces

of the stomach, and which surround the secreting glands, and from which the gastric secretions are supplied, are liable to irritation and alteration in caliber, being expanded by heat and contracted by cold. The habit of taking into the stomach substances above the normal temperature of the body results in dilatation and congestion of the vessels. Where there is obstruction to the return of venous blood to the heart, there will be catarrh of the mucous membranes.

The intemperate use of alcoholic liquors is a frequent cause of hyperæmia and inflammatory changes of the mucous membrame of the stomach. The membrane becomes thickened and infiltrated with mucous, the peptic secretions are diminished, and the peristaltic action of the stomach impaired. If, in this condition, food is taken into the stomach, it may be enveloped in mucus and remain in the stomach undigested. The secreting tubules are also affected by hyperæmic and inflammatory conditions; they are blocked by deposits, and undergo degenerative changes. Some of the tubules are swollen and infiltrated with granular matter, while others are shrunken and atrophied, and have lost their secreting function, the alteration in the tubules being in accordance with the duration and intensity of the disease. From alteration in the gastric tubules of considerable extent we have the most persistent and incurable form of anæmia, and it is in this form of gastric disease where predigested food, in the form of peptones, is most useful, and promises the best results.

All diseases, both acute and chronic, modify the gastric secretions according to their intensity and duration, producing either temporary or permanent alterations in the glandular secretions.

Acute diseases often leave stains upon the mucous membrane of the stomach and intestines, which long afterward interfere with digestion and healthy nutrition. The mucous membrane is thickened and its power of absorption is diminished. Water, oxygen, fats and albuminoids do not pass through it as in health. How often do we find chronic diarrhea among the soldiers of the late war, resulting from an acute inflammation of the stomach or intestines contracted during camp-life, leaving the mucous membrane thickened and impaired, so that if an excess of food be taken it is not absorbed and assimilated, but ferments and is hurried through the bowels as a diarrhea.

That indigestion is caused by over-alimentation beyond the requirements of the system, there can be no doubt. While the albuminoids are highly necessary for continued existence and are the most easily digested by the stomach, yet if they are taken in excess and beyond the wants of the system there will follow large excretion of urea by the kidneys. When these organs have to eliminate large amounts of imperfectly oxidized nitrogenous material, a state of venal hyperæmia is constantly maintained, which may result in parenchymatous changes.

When the albuminoids are in excess of the demands of the system

the metabolic function of the liver is disturbed by extra labor, and the albuminoids, being in excess, are suboxidized, and instead of the normal amount of urea, uric acid is formed, and lithæmia, with its consequent effects upon the system, is the result. Foods which enter the system for the construction of tissue, or to be converted into force and heat, are eliminated by the body as urea or carbonic acid and water, the products of oxidation, hence there should be a balance between the income and outcome.

One of the effects of over-alimentation is acute indigestion of the stomach, which usually occurs in exhausted conditions of the system after some irregularity or imprudence in eating, or from excesses beyond the demands of the system at banquets or other social gatherings, and is usually regarded as biliousness or malaria. The usual remedies are quinine and physics, from which is obtained a temporary cure, with a tendency to return when changes of the weather or other causes shall increase the amount of ingesta beyond the demands of the system. That these attacks of acute indigestion can be avoided by the regulation of diet and habits of life, there seems but little doubt. Fothergill maintains that bile is a product of the albuminoids, and that biliousness is from over-indulgence in this kind of food. "The explanation should stand so," says Fothergill; "first, there is over-abundance of food taken; second, the more readily oxidizable hydrocarbons burn first, leaving the less readily combustible albuminoids to burn as best they may. It is the residuum of nitrogenized material which produces the excess of bile with the general disturbances resulting therefrom. The rich food is the cause of the bile, not directly, but indirectly. As a rule, those articles of diet are most apt to disagree which contain much saccharine or oleaginous matter, and not as might have been expected, nitrogenous food. Of course it is true that the indulgence in oleaginous food in addition to their ordinary food made them worse."

From disease and alteration in the secreting glands of the pancreas and intestines, we have intestinal indigestion. Failure in assimilation, especially of fats, seems to be the starting-point of that "dread disease in which," says Dickens, "death and life are so strangely blended that death takes on the glow and hue of life and life the gaunt and grizzly form of death—a disease which medicine never cured, wealth never warded off nor poverty could boast exemption from, which sometimes moves in giant strides and sometimes at a tardy, sluggish pace, but slow or quick is ever sure and certain." Where there is deficient secretion of bile and pancreatic juice, septic matters may be conveyed by the lacteals and veins into the lungs and glandular structures of the body. One of the premonitions of phthisis is dyspepsia and the dislike to fats and oleaginous substances. The inability to assimilate and metabolize fats is of frequent occurrence.

The most common form of indigestion is deficient gastric secretion with fermentation. In this form those remedies are of most benefit which increase the gastric secretions by their stimulating action upon the mucous surfaces of the stomach, such as *arsenic* and alcoholic liquors in small quantities. In foul conditions of the stomach the bicarbonate of soda or the sulphate of soda in drachm doses in a glass of water each morning before breakfast is a remedy which neutralizes the acids in the stomach, gives tone to the muscular structure, clears the cavity of morbid products, relieves the portal system from tension, and insures an evacuation of the bowels. These are also good remedies in gastric headache, where there is fermentation of the fats and starchy substances. The fats are converted into butyric acid and the starches into acetic acid, with probably decomposition of the proteid elements of the food. Usually the system needs to be reinforced by *quinine* and strychnine, as there is often a want of physical and nervous force about such patients. If the nitrogenous elements of the food are not sufficiently peptonized, pepsin and hydrochloric acid have the remarkable power of transforming albumen into peptones.

In over-alimentation of albuminoids with sub-oxidation, the diet can be changed from the heavier to the less nitrogenized articles of food, such as veal, chicken, fish, game, vegetables, fruit, salads, etc.

Simple indigestion may be either from deficiency or inefficiency of gastric juice, or from increased or diminished peristalsis. In increased peristalsis, where the mucous membrane is irritable and where there is pain in the stomach and bowels followed by diarrhea, lime-water and bismuth are indicated.

In slow digestion, when the food stays too long in the stomach, with deficient peristalsis and gaseous eructations, aromatics excite contractions in the muscular coats of the stomach and bowels and cause expulsion of the gas. In flatulent conditions of the stomach and intestines special attention should be paid to the diet, and those articles from which the gases originate should be excluded. Those vegetables containing cellulose form carbonic acid gas and marsh gas. The condition of the blood is an important consideration in the treatment of indigestion.

In anæmic conditions tonics are indicated, but in full-blooded people, where there is an irritable condition of the mucous membrane, with increased peristalsis and an increased secretion of mucus, stimulating food should be avoided; and to prevent over-secretion of mucus such remedies as bismuth or belladonna may be used; or, which is perhaps better, tannic acid or the tincture of iron may be given. Pyrosis usually occurs in this variety of indigestion, and may be relieved by sedatives and aromatic bitters.

In indigestion from constipation, when there are insufficient fluids and diminished peristaltic action, I have found that from five to ten-

drop doses of the tincture nux vomica in a glass of water, given three times a day, is a most valuable remedy in correcting the constipation without the debilitating effect produced by cathartics. While the present methods of treating indigestion are not entirely new, yet within the last twenty-five years, through the researches of physiology, much new information upon the subject has been obtained; and with the increase in knowledge has also come an increase in the resources for its management. A more correct knowledge of the action of the glandular secretions of the digestive apparatus and their powers over the various kinds of food, opened an inviting field to manufacturing chemists for the supply of both doctors and people with digestive ferments which would fit every form of indigestion. The pig has become an important factor in society—the ferments found in his stomach and pancreas have been made to contribute to the cure of many forms of indigestion. The gentlemen who manufacture these ferments inform us that food in the stomach is subject to the same chemical laws as in the laboratory, and that when the stomach cannot secrete sufficient gastric juice to digest enough of food to nourish the tissues, the deficiency in fermentation can be supplied by means of animal ferments. The parties who manufacture these digestive ferments claim for them that "they comprise all known substances employed by nature in the preparation of food for assimilation." Some of these digestive agents include, in one formula, pepsin, ptyalin, pancreatin and lactic, and hydrochloric acids. This, we suppose, is to cover the doubt as to which acid it is that is found in the stomach. It seems now the opinion, however, that lactic acid found in the stomach at the beginning of the digestion of albuminoids, is converted into hydrochloric acid during its further progress, and if this transformation is not readily accomplished the action in the stomach is delayed, and we have slow digestion.

With reference to the abundance of artificial peptones and parapeptones, pepsic peptones and meat extracts, which have been brought before the profession and the people, Dr. Flint says: "The valuation by most persons outside of the profession, and by many within, of beef tea or its analogues, the various solutions and most of the meat extracts, and the expressed juice of meat, is a delusion and a snare, which has led to the loss of many lives by starvation. The quantity of nutritive material in the preparations is insufficient, and it is vastly important that they should be reckoned as of little value, except as conducing indirectly to nutrition by acting as stimulants for the secretion of the digestive fluids, or as a vehicle for the introduction of nutritive substances."

The management of indigestion requires the study of each case for itself. It is almost impossible to over-estimate the importance of good digestion in the cure of disease. It is the rock upon which the fabric stands.

ALOPECIA PREMATURA.

BY T. J. MILLER, M.D., CAMBRIDGE, OHIO.

That we are fast becoming a nation of bald-heads, has been asserted by various writers. And that it is more than a mere assertion is probably true, for we have all noticed a greater preponderance of shining pates in an assembly of a certain size *now*, than was to be seen in a corresponding assembly twenty-five years ago. It is not my purpose to consider cases where the loss of hair follows a fever, is due to eczema or syphilis, but only those cases occurring in young persons independently of any specially diseased condition.

I will first answer briefly some of the arguments advanced in support of certain theories that are claimed to be the cause of premature baldness. One writer asserts that mothers are too particular and cleanly, washing the scalp too often, thereby removing the oily secretion that is necessary to nourish the hair, keep it in a healthy condition and maintain its vitality. If this scrupulous cleanliness of the scalp in children is the cause of baldness, then it would necessarily follow that about the same number of either sex would lose their hair; but on the contrary, this misfortune is confined to the male members of the human family. If this was the correct solution, we should show pronounced loss of hair while small children when our heads are subjected to the scrubbing process every day. Unfortunately for the argument, our scalps retain a bountiful supply of nature's covering while we are young, and this loss does not become apparent until we have grown to manhood and daily shampooing is not indulged in by the majority of persons. The beard would also fall out if daily washing with soap and water produced death of the bulb, for there are many men who are shaved every day and the oily secretions completely removed, yet each individual hair retains a good vitality even to old age, and no difference can be seen between the one who shaves every day and the one who never shaves at all.

Another one asserts that not enough washing is done and the scalp is allowed to become filthy, thus causing a loss of hair. Now the same arguments that were used to prove the falsity of too great cleanliness, will serve to prove the falsity of this, also; for instance, children who grow up together and are subject to the same sanitary conditions, the females will retain a luxuriant growth of hair and many of the males become bald; and as only a minority of the males lose their hair, and were filthy alike, hence we must look for another and a better reason. If a dirty scalp is the cause of this loss, then the Indians would go without scalp-locks, and that, too, independent of a foe's scalping-

knife. Some say that long and some that short hair is the cause of baldness—two very opposite conditions; but as both will be referred to again, we pass them at present. Another claims that it is constitutional with dyspepsia for the principal cause, and constipated bowels, nervousness, a dirty scalp, wearing night-caps, etc., as adjuncts. I answer this statement by simply asking, why don't women, then, become bald?

I think Fox claims that in women there is a greater amount of adipose between the scalp and scull, acting as a cushion to protect the hair bulbs, while in men this fat is absent, and the scalp draws so tightly to the bone that the pressure causes death of the bulb. There being more fat between the scalp and skull of women than in men, may be an anatomical fact, although I never saw any difference; and then if this was the right theory, we would expect men in all countries and under all circumstances to lose their hair. If I am not mistaken, alopecia prematura is confined to countries where hats are worn and the hair cut short. No Indians become bald (unless scalped), neither do the inhabitants of Asia and Africa, and I believe all those who wear turbans retain a good growth of hair. The most commonly accepted theory is, that the scalp becomes overheated from wearing tight hats, and by reason of this heat the hair-bulbs lose their vitality, die, and the hair falls out; and when once dead nothing can restore them to life. This is probably the most difficult to answer of all the assigned causes mentioned in this paper. We do not believe this to be the cause, for if it was, we would expect nearly all persons under similar circumstances to become bald; but this is not true, for only a portion of those who wear tight hats lose their hair. Persons who wear open hats in summer and ventilated hats in winter become victims of this misfortune, while others who winter and summer wear warm, unventilated hats, retain a good growth of hair.

It is true that the hair only falls out beneath the hat, and is the great argument in favor of this theory, but if you will examine those heads critically, you will find that in some persons baldness appears over the occiput, while in others the bregma only is denuded, yet both parts are subjected to the same degree of heat. And more than this, every one as soon as he feels his head becoming too hot, automatically, so to speak, raises his head-cover to allow a free circulation of air beneath his hat or cap. The scalp is kept cool by perspiration and radiation just like other parts of the body; and if this were not true, doctors would be kept busy administering to the needs of persons suffering from attacks of sunstroke, heat exhaustion, cerebral congestion, meningitis, mania, and perhaps many other troubles caused by wearing warm, tight-fitting hats. The feet are subjected to greater degrees of heat than the head can possibly be, being incased in a woolen or cotton covering and then a layer of heavy leather, often extending to the knee, and that too in the very hottest

weather of summer; yet the hair on the feet and toes never drops out, but retains vitality as long as the person lives. If it is the close and warm covering that causes this loss, would not our feet and toes at an early age lose every vestige of their scanty hirsuteness? We hold an entirely different view from any of those mentioned, that we will describe in as brief a manner as possible. In order to keep any part of the body in a healthy state, that part must receive blood of a proper quantity and quality and have a sufficient nerve supply. The blood may be of good quality and of sufficient quantity to nourish a part, yet if the return of venous blood be hindered, passive congestion results, with lowering of the vitality and diminished nourishment. If pressure is made on an artery diminishing the caliber of the vessel, less than the usual amount of blood reaches the part supplied by that particular artery, diminishing nutrition, lowering vitality, and the tissues atrophy from inanition. Or the same result may be brought about by a passive congestion due to an obstructed vein, and the part, from lack of red blood, sinks to a condition far below that of a healthy state. And if the lumen of a vessel be only partially destroyed, enough blood may reach the tissues to enable them to live, but when they have a special function to perform, a lack of nutrition will cause them to cease functionating, yet are well enough fed to retain life. The special function of the hair bulb is to furnish a starting-point for the hair, nourish it and cause it to grow, but as soon as you cut off or lessen its supply of food, the first to suffer is the hair itself, and if nutrition is further hindered the bulb will atrophy although the scalp may receive blood enough to continue it in a fairly healthy condition.

The scalp is nourished by the two occipital and two temporal arteries, the latter dividing into the anterior and posterior temporal. The bregmatic portion is supplied by the anterior temporals, and the posterior temporals and occipitals supply the remainder of the scalp. If a branch of an artery supplying the scalp is wounded, bleeding is easily controlled by pressure applied to the proximal end of the vessel, and moderate compression only is necessary because of the underlying plate of bone. If the flow of blood in a wounded artery is so easily stopped, the lumen in an unwounded one would be as easily occluded. Pressure is produced by the hat being being drawn tightly down on the head, and by forcing the blood vessel against the outer table of the skull, diminishing its caliber at the point where the hat comes in contact with it, cuts off the flow of arterial blood to the scalp. If the hat was worn continuously, the hair would drop out much sooner, and also endanger the life of the scalp, but as the pressure is removed at short intervals it takes a long time to cause atrophy of the bulb; but every time this nutrient is diminished for awhile, it grows a little weaker, until finally the mischief is done, atrophy has taken place, and the hairy covering of the scalp disappears. The pressure of the hat may also

interfere with the return of venous blood, producing a passive congestion and thus prevent the flow of arterial blood through the capillaries, and by so doing impoverish the scalp and all that pertains to it, even though the arteries may not be greatly compressed. The hat, acting as a tourniquet on the arteries supplying the scalp, is the great immediate cause of premature baldness, but there are other things that play an important role as remote or predisposing causes. Persons who have a large bi-parietal are more likely to become bald than those who have a small bi-parietal diameter of the head. It is the full side head that so easily allows compression of the anterior and posterior temporal arteries. One who has a flat side head may never lose his hair, simply because the hat presses lightly or not at all on the vessels supplying the entire top of the head, and the occipital branches feed but a small part of the scalp above the point where the hat usually comes in contact with the skin. The stiff, inelastic hat is a great factor as a cause, especially when worn by one who has a full side head, for it will not adapt itself to the outline of the skull, and most likely will make great pressure on the posterior temporal artery; and as that vessel supplies a great area on the top and back part of the head, you will nearly always find that the hair first disappears on that region. The custom of having the hair cut close to the scalp deprives the blood vessel of the protection that a heavy growth of elastic hair would afford, and more easily allows the hat to produce compression; hence we say that short hair is a potent factor in the production of baldness. It is thought that mental work has something to do with producing a loss of this growth, but if it did, women would also become bald; but they do not, so this cannot be the cause. Persons will also become bald who are of unsound mind, provided they wear stiff hats and have a round and full side head. Farmers are not so subject to this calamity as professional men and residents of cities, because the farmer usually wear soft hats, while the stiff and especially the silk hat, is worn by the latter. As we have already stated that long hair affords protection to the arteries, hence we argue that as an aid to prevent the scalp from losing nature's covering, we should avoid having shaved and shingled heads. As a prophylactic measure we should wear thin, soft, light hats, and not draw them tightly to the head; and they adjust themselves more perfectly, making equitable pressure, and do not fit closely at a few points. Stiff and silk hats should be made strictly according to measure, and so constructed that they will pass over the arteries without causing more than a slight compression. In selecting a hat from a ready-made stock, choose one that binds only on the anterior and posterior parts of the head, and one that fits loosely over the location of the arteries supplying the top of the scalp; that is, protect the anterior and posterior branches of the temporal.

The temporal arteries are the principal ones to protect, for the co-

cipital vessels supply such a small area above where the hat comes in contact with the head, that they need scarcely be considered. In fact, we believe that both men and women compress more or less the terminal branches of the occipital arteries. It has become quite fashionable in late years among the younger and unmarried women to have their hair cut short, and we believe that all that is necessary to make women bald is for them to shingle their hair and wear stiff hats; and we will venture the assertion that glistening scalps among women in the course of time (unless they wear wigs) will be no novelty. Many other arguments might be adduced, but we have said enough to show our position on the cause and treatment of alopecia prematura.

POTTS FRACTURE.

BY A. H. CORDIER, M.D., WINDOM, KANSAS.

Since we last met it has occurred to me to write a voluntary paper (at our last meeting I was appointed to prepare a paper on "Infant Feeding") on a subject of the greatest importance to the surgeon, and especially to the general practitioner of medicine, whose time is wholly occupied in his practice and reviewing subjects met with in his daily rounds. I have selected as my subject, "Fractures," and from the general classification I have chosen one of frequent occurrence as well as of a grave and serious nature. When the fibula is fractured anywhere within two or four inches of the malleolus, accompanied by a laceration of the internal lateral or deltoid ligament, or by a fracture of the internal malleolus, it is known as a "Potts fracture."

The causes are like most fractures, predisposing and exciting. Predisposing causes are age, sex, function, immobility, and diathesis. Exciting causes are violence and muscular contractions; violence being subdivided into direct and indirect. Under the head of function and form, the fibula being the smallest bone in the body in proportion to its length, makes it especially liable to fracture.

Function and Form.—It is also situated so that when the foot receives great force on the inner or outer side, the fibula from its position as a brace on the outer side of ankle-joint, receives the pressure on the inner surface of the outer malleolus from the os calcis and astragalus, when the foot is abducted and when adducted, by the pressure from the calcaneum alone, and when the foot is severely abducted the internal lateral ligament is often torn and you thus have added a partial luxation of the ankle as a complication.

Age.—This fracture is to be found most frequently in middle life or

during the most active period of our existence. In 315 cases tabulated by Dupuytren, 107 occurred between ages of thirty and forty years. Malgaigne found in his collection of 109 cases not a fracture occurring under age of fifteen.

SEX.—*Males*, from the nature of their occupations, are more likely to have their fibulæ fractured than females, the ratio being as seven to one.

MOBILITY.—The fibula from being held immobile by its ligamentous attachments to the tibia and bones of tarsus, subjects it to fracture when any force is applied to the foot that will be directed in the axis of the long diameter of fibula, or to any extra amount of pressure brought to bear on the inner surface of the outer malleolus. As by extreme abduction or adduction, in the former instance by pressure from the oscalcis and astragalus, and in latter case by the calcaneum alone and at same time often breaking away that part of the tibia united to fibula by the anterior and posterior inferior tibio-fibular ligaments.

THEORIES.—Some authors claim this fracture occurs only after the deltoid ligament has given away or after the inner malleolus has been fractured, claiming that after either of these supports give way that the weight of the body is transmitted in the long axis of the fibula, instead of the tibia, which is the normal condition. Some authors will not accept the theory that the pressure from the os calcis and astragalus is sufficient to fracture the fibula by forcible abduction or adduction, but that the fracture is produced by an external rotation of the foot. Some surgeons claim that rotation of the foot is an impossibility. Agnew says, "that internal and external rotation does take place, but that it is secondary to abduction or adduction, and follows from the form of the foot;" as when a person is walking on a hard uneven surface, as the frozen ground, loses his balance and in the struggle to regain it the weight of the body is received upon its outer side and the foot is placed in extreme adduction, the prominent part of which is at the base of the metatarsal bone of little toe. By this, the toes are forced inwards, and inward rotation takes place; while if the foot is abducted the weight of body falls on the inner side of foot, the salient point of which is the metatarso-phalangeal projection of the big toe, and outward rotation is produced.

DIATHESIS constitutes a predisposing cause, but has no special bearing on fracture of fibula. Such conditions of the system, either hereditary or acquired, may be classified among the conditions of the patients as predisposing causes of fractures, syphilis, scrofula, gout, rachitis, ostiomatacia, etc.

EXCITING CAUSES.—The exciting causes of this, as of all fractures, are violence and muscular action.

VIOLENCE is either direct or indirect, as when a person receives a

kick or a blow at the site of fracture or falling from a height, alights upon the foot, the force being transmitted through the bones of the tarsus abducting or adducting the foot or wedging the astragalus between the malleoli, and fracturing the bone in this way. Sir Astley Cooper fractured his fibula by this latter method.

MUSCULAR ACTION.—A few cases of fracture of the fibula have been reported as occurring as a result of muscular contractions, but none of the cases coming under my notice have been produced by this cause.

This fracture is classified by many writers as a comminuted, unless accompanied by an external opening, when it assumes the name of a compound comminuted fracture, or a compound Potts fracture.

PATHOLOGY.—In most all fractures of this bone there is a partial luxation of the astragalus inwards. Malgaigne and Dupuytren have each noticed an outward dislocation of this bone. But in a majority of cases the foot is turned outward, and as a matter of course, the astragalus will be directly inward. The tibia is often partially dislocated inward, sometimes forward; but forward dislocation of tibia is usually an after-occurrence, caused by the heel being improperly supported during the first ten days of treatment.

COMPOUND.—When compound, the fracture is generally caused by direct violence, and the *continuance* of that violence after the fibula has been fractured causes the tibia to rupture the soft parts over the inner malleolus, and thus converts it into a compound fracture; or the projectile, striking the outer side of the leg, many cut or cause the broken ends of fibula to protrude through the skin on outer side of the leg. The ends of broken bone are generally displaced inward, toward or against the tibia.

PROGNOSIS.—Often the ends of the fibula are united in contact with the tibia, sometimes backwards or forwards, and occasionally you will find a case that refuses to unite at all. In all compound Potts fractures the prognosis is grave as regards life, limb, and function of ankle-joint. In most cases of simple Potts fracture the ankle-joint has remained stiff for quite a time after the bandages have been removed, but this immobility generally disappears in a few weeks or months. Some deformity is most likely to remain where there has been much displacement.

DIAGNOSIS.—If you are called to see a person who has sustained an injury near the ankle-joint, and if that person is a male between twenty-five and forty years of age, and if he gives a history of a fall on his foot, wedging it in between something, or while walking or running across a rough surface, his leg suddenly gives way with an audible snap and he falls to the ground, and upon investigation you find a leg and foot distorted like this [illustration], you conclude you have a Potts fracture to deal with, and if you carry your examination a little farther

and find when you run your finger down the crest of shin of tibia and find it intact, and when you start inwards across the inner malleolus and find a gap existing between the fragments of the malleolus; and now if you will just start upwards from the outer ankle and feel carefully, you will find a tender spot, and by careful manipulation you will get crepitus. I say if you will do all this (and you can with no difficulty) and find things as I have described them, you may swear by it that you have a genuine Potts fracture to deal with. The deformity in this fracture is peculiar and in well-marked cases is as characteristic of this injury as the "Silver Fork" is of Colle's at the wrist.

The tibia projecting inwards at the ankle is to be felt just under the skin. The deltoid or internal lateral ligament pulling the tip of the inner malleolus, which is usually fractured, downwards. The foot is abducted and the toes are slightly rotated externally and the heel is elevated by the gastroenamius, soleus and plantaris muscles. The outer border of the foot is elevated by the contraction of the peroneus and longus and brevis; these muscles also add to the cause of the eversion of the foot.

TREATMENT.—The essential point in the treatment is to make and maintain complete reduction. This is wholly or partially brought about by various means, one or two of which I will run over, casually pointing out the advantages and disadvantages of each as I go along.

METHOD OF DUPUYTREN.—If the limb is in a condition that a permanent dressing cannot be applied, the method of Dupuytren is a very good one, but has its objections, in that it fails to maintain the bones in the proper relationship so much desired, especially in those cases where there is a wide separation of the deltoid ligament or fragments of the inner malleolus; in such cases the astragalus is disposed to become displaced backwards, the heel elevated by the muscles of the calf and the tibia forward. Dupuytren's splint is applied as follows. (I here show you an illustration of Dupuytren's dressing applied.)

APPLICATION OF DUPUYTREN'S SPLINT.—A long pad or bag stuffed with cotton-batting is made to extend from inner condyle of femur to just above the inner malleolus. This pad must be five or six inches in breadth and two or three inches thicker at inner malleolus than at the knee. Place this pad in the position as mentioned above, and on this place a long splint from above the knee to two or three inches below the sole of the foot; with a few turns of a roller the upper end is secured to the knee, and with another bandage the lower end is made fast to the foot. The application of the last bandage requires some skill, as its objects are to adduct and at the same time rotate the foot inwards, while at the same time the tibia is pressed outwards, and with this object in view you must apply the bandage alternately over the heel and instep, taking in, of course, the pad and splint. The

bandage must be drawn tightly, and no turns of the roller should be carried higher than the external malleolus; if you do, you will defeat the very object you have in view, viz., the throwing out of the upper end of the lower fragment of the fibula. After applying the dressing, flex the knee and lay the leg upon its *either* side upon a pillow, as you see in the engraving.

SPLINTS.—Equally as good, if not better, results may be obtained by the use of tin, felt, leather, or gutta-percha splints, which will be more likely to prevent any backward displacement of the astragalus.

TIGHT BANDAGING.—*Avoid tight bandaging with any of your dressings.*

PLASTER OF PARIS DRESSINGS.—Without detaining and worrying you longer in speaking of the good and bad results obtained by various means, I will proceed to give you in my humble opinion the best method of treating this fracture, namely by the plaster of paris dressing. Have a good quality of plaster well rolled in bandages of suitable width, and about three yards long; your plaster must be fresh or in air-tight cans or it will disappoint you.

COTTON BATTING.—Inclose the limb in fine cotton-batting; over this apply a dry roller from the toes to the knee (be sure and pad the heel and malleoli well with the batting before applying the dry roller), taking care not to draw the bandage too firmly, especially over the site of fractured fibula. Have a trusted assistant; hold the foot as follows:

METHOD OF APPLYING PLASTER OF PARIS.—Grasp the heel and instep with one hand and press them inward, at same time you make counter pressure with the other hand upon the inner side of the tibia just above the malleolus, remembering that the front part of the foot may be adducted and inverted without producing the adduction and inversion of the astragalus sought for, as the front part of the foot may assume this position by a movement in the medio-tarsal joint. Having procured your assistant and placed him in care of his charge, you apply your plaster bandages, beginning at the toes and carrying the rollers upward to the knee. After applying three or four thicknesses and rubbing in the meshes of the bandages all the extra plaster of paris you can while applying it, you hold the foot in the *correct* position until the plaster "sets," which will be in a short time if you have good plaster. Place the limb in a semi-flexed position, and lay a pillow beneath it.

NEXT VISIT, INSPECT LIMB.—At your next visit, which must be within the first forty-eight hours, if you have cause to suspect anything going wrong cut the plaster down in front and carefully examine the limb without disturbing it any more than is absolutely necessary.

DURATION OF TREATMENT.—Let the plaster dressing remain on for three or four weeks; after this time you can cautiously begin passive movements in the joint.

COMPOUND POTTS FRACTURE.—If the fracture is a compound one, wash the wound well with a 1-to-1000 bi-chloride mercury solution, dust with iodoform, and seal with adhesive plaster, and apply a layer of antiseptic gauze. If a large and lacerated wound exist, and if any of the large blood-vessels have been torn across, and as a result you have a profuse hemorrhage, you had better amputate; especially is it a case calling for an amputation when the ankle-joint is opened and the end of the tibia is protruding, and the anterior or posterior tibial arteries have been severed.

CASE.—I exhibit you a specimen here of a neglected compound comminuted fracture of the fibula, with a fracture of inner malleolus and a protrusion of the tibia to the extent of about three inches. This man was engaged in moving a building; one of the braces gave way and struck the right leg, just above the outer ankle, producing a fracture of the fibula, the *force continuing in same direction pushed* the tibia out through the soft parts over the inner malleolus, which was also fractured, as you see, and carried downward by the deltoid ligament. The small opening you see over the center side of the joint was produced by a process of sloughing. This man placed himself under the care of a disciple of Hahnemann, and for two weeks the poor sufferer was allowed to endure the pain and irritation produced by this condition you see here presented. I was telegraphed for, and amputated the leg, and have brought it here for your inspection.

VICTORY.—Homeopathy has scored another victory! I left the care of the patient in the hands of an intelligent and honest physician—the same class I see about me to-day. The case made rapid and complete recovery, with a good stump, adaptable to an artificial limb.

CHOLERA.

BY W. W. COCHRANE, M.D., ATCHISON, KANSAS.

The history of a disease is of importance to the medical scientist as it furnishes material facts upon which may be formed a theory of its nature which will enable the physician to mature a practical course of management. Although the history of cholera presents a decidedly versatile character, yet by studying its peculiarities we may expect to glean some facts to guide us in the treatment as well as in its prophylaxis. It is the only known disease which has for its origin a special locality and a somewhat uniform period and mode of spreading throughout the universe. Malignant cholera periodically starts in the East and travels westward slowly at regular stages, a peculiarity of value, as it

may enable us to decide upon the time at which it will reach a given point. Starting in Hindostan in 1817, although raging as an epidemic in almost every city and village on the route of its western tour, it required fourteen years to reach England and America in 1831, prevailing in this country for about three years, when it ceased entirely until 1848. It again visited us in 1854, 1866, and in 1873. (These periods of prevalence and absence, though not positively uniform, ought to afford some data by which we may decide upon its advent into this country in the near future.) Heretofore, when the disease raged as an epidemic, the initial points of its commencement have been well defined. In 1832 it began in Montreal and soon afterwards appeared in New York, Charleston, and New Orleans. It raged in each of these cities for several weeks as an epidemic, ceased as such, and traveled slowly into the interior. In 1848 and in 1866 it started in New York, and in 1873 it commenced in New Orleans. In each case it extended into the interior slowly by somewhat regular stages. There are instances of its being developed in the interior from direct emigration from abroad, but they have never produced a spreading epidemic.

In 1832 the epidemic commenced in New York early in the spring and did not reach Cleveland until July 22d, in Cincinnati until September 30th, and in New Orleans the last of October. It was three months in traveling from New York to Cleveland; from New York to Cincinnati, five months. In 1848 it began in New York and New Orleans about the first of December, and while it soon became epidemic in New Orleans, it delayed its commencing ravages in New York until May 10th, 1849. Beginning in New Orleans first of December, it required four months, first of April, to reach St. Louis, and thirty days, 29th of April, to reach Chicago. In 1866, there were twenty-one deaths in New York from May 2d to July 8th. It then broke out in Chicago, 21st of July, St. Louis 27th, and Kansas City, August 13th. In 1873, starting in New Orleans February 9th, the first case reported in St. Louis was on May 11th, Chicago May 24th, and New York September 10th. Thus it will be seen that it progressed by slow stages, giving ample time for every city and village to execute prophylactic measures. The history of these epidemics gives ample material for argument favorable to quarantine by our Government. Although this in our seaport cities may be confidently expected to influence, if not prevent, the ingress of an epidemic, it will be more difficult in our inland cities. However, very much may be done by disinfection to prevent its spreading as an epidemic. When the disease is approaching, of which they will doubtless have ample notice, it will be incumbent on each municipality to employ competent detectives, whose duty it shall be to enter each railroad train from an infected district, and if there should be any suspicious cases found, they should at once be put under surveillance and reported to such medical officer as may be authorized to act for the

board of health. The incubative stage of the causal germ being about three days, places our river cities in a peculiar position of initial danger, as an individual leaving New York or New Orleans with the germ in the system, would, when arriving in this State, feel the initial symptoms and require immediate attention.

In the consideration of the etiology of disease consists the most prominent feature of distinction between the so-called medical schools of the present day. The homeopaths, having borrowed our materia medica and conceiving that some article in infinitesimal dose proved similia, they treat symptoms alone, ignoring incontinently either cause or pathology. The eclectics have wisely concluded after actual experiment that wine will cure a Frenchmen and beer a Dutchman, repudiating the necessity of estimating diathesis, heredity, or etiology. Our school teaches the imperative necessity of ferreting out the cause by scientific research of any abnormal condition before presuming to prescribe a course of treatment. The writings on the cause of cholera have been far more voluminous than on that of any other disease. So great a diversity of opinion and such complex theories do we find that it may be said in truth that at the present time the cause has by no means been decided upon. One writer asserts that it is a poison entering the system through the blood, paralyzing the functions of the glands. One supposes the poison through the nervous system acts primarily on the glands, preventing the supply of normal blood. It is by many writers termed a zymotic disease, satisfying themselves by proving that the cause is a ferment, but failing to grapple the question of the cause of the ferment. Others state it to be of telluric origin—an insufficient or superabundance of electricity or ozone in the atmosphere; then failing to explain the absence of the disease for twelve or fifteen years at a time, while there was every possible variation of those two elements in the atmosphere. It is surprising to read the learned argument used to establish each one of these theories by their respective advocates. It is, however, a fact that nearly every one of them has but given some pathognomonic symptom of a particular stage as a basis of the peculiar theory upon which they presume to predicate their therapeutic measures. To say that the algid stage of cholera is caused by an abnormal thickening of the blood from loss of serum, and then suggesting the introduction of a fluid resembling serum into the cellular tissue, is begging the question to the verge of absurdity. It is remarkable that until the germ theory was acknowledged there was no creditable attempt made to discern the remote cause of this disease, the prevailing writers unfortunately confining themselves previous to this discovery to a more or less successful blending together of metaphysical hypotheses and subjective phenomena.

There are no pathological changes in any tissue which specially indicate the cause of this disease. The epithelial and mucous follicles

of the intestines said to be softened or disintegrated, are not peculiar to this affection, and are but a result affording no clue to a remote conjecture if it should indicate a proximate cause. Mental or physical depression, telluric or atmospherical abnormalties and filth may invite an attack but they give no insight to its etiology. Scientific researches, post mortems at every stage of cadaver, manifold experiments of every description in every civilized country, have been elaborated, and until the germ theory was promulgated, no probable cause was mentioned that stood the test of scientific criticism for a day. Previous to the promulgation of the germ theory there was no known disease whose cause was so completely shrouded in mystery as this. Now there are few, if any, with sufficient temerity to deny the truth of its animalcule origin. It has been thoroughly and scientifically demonstrated that there is pervading all animal and vegetable nature an infinitesimal organism, occupying in large numbers every fluid and tissue which has for its functions the building up, the nourishing, and repairing the anatomical structure, which affords it a parasitical abode. These micro-organisms are the physiological mechanics of the human system. These physio-vita, which maintain the living fabric from birth to death, are at all times essential to the normal condition of the corporeal system. They are the nitrogenous carriers as well as the depurators of all vegetable and animal formation. They are conservative, with intricate effective powers to preserve the normal integrity of all living beings. They select and apportion nutriment as well as act as sentinels, offering at any time destructive opposition to any external toxic innovation. It is with these physioderms that the physician has to do, as when they are insufficient in number or inefficient in function, his professional services are required, but when they are normal and robust themselves, their tenement, the man, is in health. It is an idea purely of atheistic origin, that the complicated human organization spontaneously grows to perfection and is destroyed by a process of chemical disintegration. That a now living substance, however highly nitrogenized, should, entering the alimentary canal, pass through the thoracic duct into the vascular system, undergo the requisite metamorphosis and finally select its own appropriate position for the building, nourishing, and repairing of any one of the complex viscera or tissue of the human organism, is a sentiment now to be laid away as an obsolete fossil idea. These physioderms, constituting the conservative force, the vis vita of all living things, were they undisturbed by an external destructive element, would cause the animal and vegetable tenement to live a deathless infinity.

But there is a force in the external world antagonistic, destructive to the vegetable as to the animal organism — a pathoderm, a living microscopic organism, existing throughout the universe, dwelling in the atmosphere and water, swimming in shoals and schools, seeking actively

for food as does the larger, nobler man. They destroy all living things for the purpose of gratifying their own appetite and maintaining their physical nourishment. These pathoderms, with varied inherent power and propensity, are myriads in the atmosphere and dwell 500,000,000 in a drop of impure water. They are the materies morbi, the zymosis, the contagium of the books. Under the name of micro-organisms, bacteria, vibriones, microbes, spirilis and other designations, they are now occupying almost the exclusive attention of the scientific medical workers. Cynic and skeptic have expended much effort to prevent credence in this minute organism so potent in destroying with such rapidity the strongly organized man. But they have been driven from every fortification by irrepressible science, and are now endeavoring to cover their ignominious defeat by hurling ridicule on the efforts of the workers to designate, control and cultivate the pathoderm or bacillus. Whatever may be decided to be the name or peculiar species of the pathoderm, the genera is now acknowledged to be the cause of cholera, and the scientists have decided to pursue a course of investigation dictated by this theory. Indeed, they have already made gigantic strides toward a successful elucidation of the question of cause, and seem likely to discover a more sanative therapeusis if not a specific germicide. It is now decided that these pathoderms enter the stomach with food or water, and finding a suitable soil, deposit their germs in large numbers, which after incubating for two, three, or four days, fructify and impart their toxic influence in one of two ways, either by their mechanical or traumatic irritation of the secreting glands of the villi, causing them to excrete an abnormal quantity of serum, or by emitting a poison which, being absorbed into the circulation, destroys natural function. In either case function is rapidly perverted to such an extent that normal action is destroyed in every fluid and tissue. The comma pathoderm having been found in large numbers uniformly in the discharges, and in all cases the primary symptoms of the disease being irritation of the mucous membrane of the stomach and bowels, it is but logical to conclude that the alimentary canal is the field of its initiative action and that we are justified in exerting our therapeutical efforts in that direction. It is a melancholy reflection that the treatment of the disease, after tentative efforts for years, still remains as testimony to the uncertainty of scientific medicine. The stimulant treatment, the opiate, the astringent, the eliminative, the external, the negative-venesection, and calomel, have each and all alike been thoroughly tested in accordance with clinical rules and proved worthy only of abandonment.

Previous to the epidemic in this country of 1833, writers who were all theorists concurred in the opinion that mercury would cure the disease in any and all stages. That epidemic raged and ceased with the appalling result of over fifty per cent. mortality, which unfavorable result they attributed to the reckless use of opium and stimulants, and

for years during the interim to '49 they persisted in the assertion that calomel was a specific. During the epidemic of 1849 they gave opium and stimulants cautiously, varied their doses and experiments, and still one half the cases died. Then up to 1873 the mercurialists proved that their success was at least as good as any other treatment, but attributed their failure to the dose or mode of administration, each writer advocating a different dose. So when the epidemic appeared in 1873 the profession could but obey their teaching and rely on calomel, both in the prodromic and algid stage, with still the result of curing only one-half the cases. In 1874 the medical officers of the army and navy were directed by Congress to collect and report all the facts of importance relative to the epidemic of cholera in 1873. In this report, published in a volume of 1,000 pages, there is an elaborate detail of treatment given of 7,000 cases, compiled in a scientific and practical manner, that deserves the highest commendation. However perfect the work may be, I have the temerity to criticise one part of it, at east. In it there is a summary of the average mortality from the different treatment, as follows: From calomel alone, 23 per cent.; calomel and opium, 31 per cent.; calomel, opium and lead, 40 per cent.; calomel, opium and stimulants, 50 per cent.; stimulants alone, 59 per cent.; preparations of iron, 33 per cent.; acid treatment, 8 per cent. After looking over the detail of cases given in the report, but few, if any, cases can be found that were treated alone with calomel; indeed, it is nearly impossible for the strongest theorist to use but one medicine in this rapidly changing disease, for the attendants would probably drive him out of the house did he persist in disregarding the loud calls for relief of the various urgent symptoms; and once giving heed to them opens the way for frequent changes of treatment. Among the number reported are the following: At Huntsville, Ala., there were 51 cases and 47 deaths; Hendricks, Ind., 24 cases, 22 died; Washington, Ind., 13 cases, 12 deaths; Okawville, Ill., 40 cases, 40 died; Fayette, Mo., 56 cases, 53 deaths; Louisville, Ky., 20 cases, all died. These cases were all treated with calomel, opium, bismuth and quinine. The result seems not to have been influenced by the doses of calomel, as $\frac{1}{10}$ gr. repeated and larger doses were given without varying the average mortality. The reader of the detail of these 7,000 cases will find it difficult to avoid the conclusion that the disease was nearly always treated tentatively, with the empirical idea that some particular article would act as a specific.

The greater number of cases seem to have been treated in the various localities with a routine prescription, regardless of the peculiar diathesis or condition of the system. Now the rule of scientific medication that there is no such thing as a specific therapeusis, or that each case should be treated according to the existing condition of the system, is so old as to have become axiomatic. This rule is probably

more imperative in this than in any other disease. It is a well-authenticated fact that cholera attacks no one who has normal digestion, and it would seem to be a rational conclusion that the digestive derangement should be rectified in order to give relief. Indeed, it is an old-established maxim, that no medicine will produce its specific, benign effect unless there is a physiological condition of the alimentary canal. In this affection there may be emesis and diarrhea, at the same time an impaction of the duodenum and jejunum, in which there may be a continuous fructification of the comma pathoderm.

In this condition of the intestines it would ordinarily be considered good practice to evacuate them, as a preliminary measure at least. This would surely remove the germ, the living pathoderm, and prevent its further ravages if it did not heal the already wounded tissues. When the duodenum is impacted and liver torpid, any medicine is likely to be ineffectual, if it does not aggravate. Here a cathartic or emetic will so change the condition of the system as to ensure appropriate after-treatment to be more effectual. From statistical history we find that this eliminative treatment has been as successful as many other modes. It is reported that Dr. Johnston, of London, cured all cases not moribund with castor oil; and Dr. Tiers, of the Mauritius, cured 149 cases out of 150 by giving at the onset thirty grains of ipecac and two grains of tart. of antimony with copious draughts of warm water. It is also authoritatively asserted that calomel fails if it does not have an evacuating effect at an early period, thus forcing it into the class of eliminatives. In the before-mentioned 7,000 cases, probably the only treatment shown to be worthy of trial is the acid treatment, not only because of the report of eight per cent. mortality, but as it is shown to be a successful prophylactic, and from experiments made by scientists, it is probable that the pathoderm cannot exist or fructify in an acid element, and that it requires an alkaline medium for its generation. If this plausible statement proves to be correct, then it would seem only requisite to decide upon the appropriate acid and the proper administration of it, to find a true specific or germicide. This treatment was tried by a few in 1849, but probably not alone or in such a manner as to decide its real merit. It has been shown somewhat conclusively that it has proved as efficient as any other sanative measure. Up to the present day it is theoretically the only tenable therapeusis worthy of the attention of the progressive physician.

An instance is given in the report of 1873, of the cholera raging in an institution with a large number of insane inmates, when a lemonade was made of dilute sulphuric acid, and given to all, both sick and well. After commencing the use of it the disease rapidly decreased, and finally ceased. When the lemonade was discontinued the disease recommenced, and was again allayed by its use. Having found the acid an innocuous and efficient preventive in the early stage, there is no

reason why it should not in a later stage, with some change in the dose or the adjuvants, prove to be an antidote. It would at least seem to be imperative on all practitioners at the onset of an epidemic, to advise their patrons who may be exposed to it, to at once commence the use of fifteen drops of dilute sulphuric acid, or the old invaluable elixir vitriol, three times a day. Opium, so clearly indicated by the symptoms in this disease, both as an astringent and anodyne, has been ostracised by all writers, except in the premonitory stage. Astringents, both vegetable and mineral, have been abundantly tested and found to be ineffective. Stimulants have, like all other general remedies, been abandoned. In the prodromic stage of the disease there is no doubt whatever that perfect rest in the recumbent position, together with the will-power to restrain the action of the bowels, will in nearly every case require but little medication to abort or prevent further action of the pathoderm. From the late epidemic in Europe we have learned absolutely nothing as to treatment. It would seem that the same old empirical tentative treatment has been followed with the same old result of fifty per cent. mortality. The only probable improvement has been in the hypodermic use of morphia, and belladonna, together with the strict rule of rest and early treatment.

ALBUMENURIA.

BY W. L. SCHENCK, M.D., OSAGE CITY, KANSAS.

Having been appointed to prepare a paper upon albumenuria, I report for duty, though I may do little more than stimulate discussion.

Albumenuria has been considered synonymous with Bright's disease. As the name indicates (albuminous urine), it is an infiltration, from various causes, of albumen into the urine, while Bright's disease embraces various acute and chronic inflammatory processes, with consequent organic changes. In albumenuria, the albuminous urine is frequently the only evidence of derangement. In Bright's disease, it is only one of many symptoms, and in some of its worst forms is rarely present in any considerable degree.

The kidneys are peculiarly organized, glandular structures, capable of both dialysis and secretion. The caliber of the afferent vessels of the Malpighian bodies being greater than that of the efferent vessels; the normal pressure upon the walls of the capillaries of the vascular tufts causes the transfusion of a portion of the serum of the blood and the salts it holds in solution. The amount varies according to the pressure, the normal amount ranging from forty to sixty fluid ounces in

twenty-four hours. Nine hundred and seventy-eight parts in a thousand of normal urine are water, eighteen parts soluble salts, pigment matter, etc., held in solution by the water, and with it filtered through the vessels of the glomeruli into the mouth of the uriniferous tubes. The remaining twenty-two parts are urea and uric acid, the result of glandular excretion.

When the blood in the capillary tufts, from any cause, contains excess of albumen, or when the resistance of the walls of their vessels is less, or the pressure upon them greater than normal, albumen and casts may be filtered through with the water and salts.

While a very few years ago the presence of albumen in the urine was supposed to settle the question of the integrity of the kidneys and warrant a grave prognosis, we now readily comprehend how it may be present from slight and transient causes; and before condemning our patients to skim-milk for a year or more, or commending them to their pastors, and especially before deciding upon the destruction of the unborn child in the albumenuria of pregnancy, we diagnose between what has been termed accidental and essential albumen — albumen filtered through the uriniferous tufts with the watery portion of the serum and albumen occurring from organic changes below the glomeruli. The conditions upon which the albumen in the urine depend are of widely different import, a fact that should always place us on our guard, for, while its presence may be of slight significance, it is sometimes a symptom of grave pathological lesions, and as the causes producing the simple forms may lead to the graver lesions, we should always give its presence thoughtful consideration.

Let us consider some of the causes producing albumenuria.

Albuminous food taken in excess is quite a common cause, and ordinarily of no serious import. When the blood contains more albumen than is normal, or when it contains relatively more, as when there is an increased loss of water through the skin or alimentary canal, or a diminished supply of water to the system, or a diminished functioning power of the white blood-corpuscles, we may find albumen in the urine.

Dr. Smith (*New York Medical Journal*, 1880) relates the case of a medical friend in whom a pint of milk would cause albuminous urine for eight or ten hours without further results.

Sir William Gull esteems its postcibal presence of so little importance that he asks: "Of what worth were mere statistics of albumenuria, since it occurs in young men and growing boys almost as frequently as spermatorrhea?"

Indigestion, with or without association with other diseases, through imperfect transformation of nitrogenous matter, may, like egg albumen injected into the circulation, cause the elimination of albumen through the kidneys.

Diuretics, such as cantharides and the terebinthinates, producing

their action through irritation and flux to the kidneys, may cause albumenuria.

Exposure to cold, partial or general, by arresting action in the capillaries of the surface, increases the current through the afferent vessels of the tufts and causes albuminous infiltration. So any cause that produces hyperæmia or congestion of the kidneys causes the infiltration of albumen into the urine. Robinson and Frerichs dammed back the circulation in the renal vessels by ligaturing the renal vein. The walls distended and thinned, and the pressure increased in consequence; albumen, blood-corpuscles, and casts of renal epithelium were transuded with the urine. After the removal of the ligatures the urine was soon restored to its normal condition.

Hermann and Ouerbeck performed somewhat similar experiments. They tied the renal arteries, and found the sudden blood-pressure consequent upon the removal of the ligatures always caused albumenuria. Very similar is the condition of the kidneys during and after the collapse of Asiatic cholera, when thin anemia followed by reaction usually gives rise to albumenuria, increased by the diminished proportion of serum in the circulation. Profuse diaphoresis produces the same results by changing in the circulation the relative proportion of serum and albumen.

Chills preceding periodic and other fevers often produce albumenuria.

Cold baths, causing constriction of the cutaneous arterioles, may produce sudden pressure on the nephritic circulation and consequent albumenuria.

Scarlet fever and other eruptive diseases produce the same results in much the same way — congestion of the cutaneous circulation and hyperæmia of internal organs.

Diphtheria, as might be anticipated from the peculiar action of its specific poison on the lymphatics, is, in a large proportion of cases, complicated with albumenuria. Dr. Cadet de Gassicourt (*Medical Chronicle*) gives the result of his observations at Hospital Trousseau, where he found that more than 75 per cent. of the diphtheritic patients had albumenuria. He also found that the amount of the albumen indicated the intensity of the toxæmia. He attributed the result largely to the labor of the kidneys in removing the toxic agent.

Septic fevers generally, through the action of sepsis and the excitation of the kidneys or eliminating organs, are complicated with albumenuria. Thus Johannes Mygge found upon examination of 72 cases of typhoid fever in the hospital at Copenhagen, that in 52 there was an appreciable amount of albumen in the urine, in 9 a trace, and in only 11, none. The albumen appeared before the third week of the disease, and was transitory, lasting from one to three days in 46 cases, of whom none died; while of those in whom it was more persistent, 10

died. The presence and persistence of albuminous urine in typhoid is an evidence of the gravity of the disease, which it increases by its drain upon the circulation.

In all the forms of septicæmia, we readily comprehend how the specific poison that produces them, the altered condition of the circulation, and the increased waste, may act upon the secreting organs, and how the albumen excreted may be a measure of the intensity of the poison and the gravity of the case. If only a measure of the faultiness of an organ placed on special duty, it would be a symptom of great importance. In addition to the causes enumerated, we may have in these cases faulty digestion and extreme nervous prostration, both tending to infiltration of albumen.

Anemia, from consequent relaxation of tissue, with or without local congestion, may give rise to albumenuria.

Epileptiform convulsions are often followed by albuminous urine, which, if only examined subsequently to the convulsion, might lead to the erroneous diagnosis of uræmic poisoning.

Excess of venery and masturbation cause intermittent albumenuria, due largely to nervous prostration.

Pyrexia is often followed by albuminous urine.

Arsenic, the *phosphates*, and other poisonous agents may cause albumenuria.

Active exercise sometimes produces the same result. The urine of Weston, the pedestrian, often showed both albumen and casts. The morning urine of those who have exercised freely on the preceding day will frequently contain albumen.

Cardiac disease, producing stasis in the circulation, may cause albumenuria. Schreiber (*Revue des Sci. Med.*, January, 1886) found compression of the thorax, by means of cushions applied to the anterior and posterior walls of the chest and regulated by screws, in twenty out of twenty-six persons on whom he experimented, produced temporary albumenuria, and in some cases hyaline casts and not corpuscles. In a second series of experiments, he found in eight out of ten boys, of from eleven to fifteen years, thoracic compression, continued for half an hour, provoked albumenuria ($\frac{1}{8}$ to $\frac{1}{2}$ per cent.), which ceased at the end of an hour. He attributed these results to the diminution of the difference which normally exists between the pressure in the capillaries of the alveola of the lungs and the left ventricle, the diminution of the caliber of the pulmonary vessels, and the diminution of the extent of the respiratory excursions. These conditions caused stasis in the pulmonary circulation, which rapidly propagated to the net-work of the kidneys, followed by the filtration of albumen.

Pregnancy is, perhaps, the most common of all the various causes of albumenuria. In it we recognize many of the conditions which, separately, are sufficient to produce the disease. The draft upon the

nervous system consequent upon building up another life than that of the mother, the amount of effete matter to be eliminated demanding excessive nephritic activity, the pressure of the fœtal tumor causing stasis in the circulation, and nephritic congestion as well as exudation of serum into the cellular tissue, with consequent undue proportion of albumen in the blood, and various other complications, tend to produce temporary albumenuria, many cases of which would never be suspected without an analysis of the urine. While we watch these cases, knowing their possibilities, they should not excite undue alarm or lead to unnecessary and criminal interference. After producing a miscarriage in such cases, the doctor may felicitate himself on the patient's speedy return to health, and pity the old fogies who hold that destruction of life, even in the womb, should be a most exceptional act, and who consider Bright's disease, that gets well itself when the womb is emptied, as a grave disorder. Take for example, an article published within a year in a neighboring medical journal: "Were there time, I would give a report of five cases in which the premonitory symptoms of eclampsia were more or less marked, and in which there was almost a total disappearance of the alarming symptoms under the eliminative treatment. One of the cases, Mrs. B., a primapara, aged thirty-five, consulted me, at seven months of pregnancy, because of a train of distressing symptoms. There were present a general anasarcous condition, severe frontal headache, and dimness of vision. I treated her for several weeks after the manner I have recommended. The distension of the abdomen was so great that respiration became greatly embarrassed, and the labia majora extended fully four inches down the thighs. During this time severe epigastric pain supervened. In consultation, my friend Dr. K. and I agreed to watch the case, and if labor were not established within twenty-four hours, to induce premature labor. At 11 o'clock the same day I was summoned to the bedside, and in three hours the patient was delivered of a fœtus in which *decomposition had already begun.* The patient made a *rapid* and *perfect recovery.*"

Whilst there are several suggestive things in this case, such as its being a sample of one out of five cases "in which there was almost a total disappearance of alarming symptoms under the eliminative treatment," and the suggestive query, "if the fœtus had been dead long enough for decomposition why was not that fact diagnosed and deemed sufficient ground for interference?" we quote it to emphasize the fact that, when a patient makes a "rapid and perfect recovery" after the induced abortion, it is evidence that the albumenuria, or whatever caused the difficulty, should have been relieved without destruction of the fœtus.

It may seem a little presumptuous to doubt the conclusions of such an authority. The author of the paper tells us that eclampsia occurs "once

in five hundred pregnancies," and indicates an experience that could report many more than the five cases to which we have referred. Suppose there were a half-dozen cases, all told. With one to five hundred pregnancies they would give this young man, in his five years' practice in a country village, with a half-dozen older competitors, some 3,000 obstetrical cases. This would be a wonderful experience had it not occurred in a Kansas village where a population of 3,000 can cast at a county-seat election 5,000 votes.

Whether such Falstaffian experience is or is not valuable, we know that albuminous urine is passed at some period in nearly every pregnancy, though it may ofttimes be unsuspected, so little does it interfere with health. Just how albumen, filtered from the blood through the glomeruli and passed out of the body with the urine is going to produce uræmic poisoning, is beyond our comprehension. The uræmic poisoning that results in eclampsia and other serious conditions during pregnancy is the result of retention in the circulation of the debris of worn-out tissues (urea and uric acid) or other noxious elements, rather than a removal from the circulation of albumen, which it may ofttimes spare without manifest injury.

Some pathologists hold that in a normal condition of the kidneys only the watery portion of the blood and soluble salts can be filtered through the capillaries of the glomeruli, and that the squamous epithelium prevents the passage of albumen to the uriniferous tubes; nevertheless, as we have seen it, it is often present without serious or manifest structural change in the kidneys. Others, as we have said, make no distinction between a simple albumenuria and the more serious lesions of Bright's disease.

We think we may as well consider every diarrheal discharge Asiatic cholera as every filtration of albumen into the uriniferous tubes, Bright's disease. A diarrhea may precede, may precipitate cholera, and so the engorgement, or stasis, that so often manifests itself in albumenuria may develop into nephritis. A simple hypertrophy of the nephritic cells may manifest itself in a transient albumenuria; if persistent, the granules that are normally present in the cells may gradually accumulate, the nucleus become indistinct or be destroyed, and granular degeneration and interstitial nephritis be the consequence.

However grave the import of albumen in the urine in certain cases, emphasizing the importance of correct etiology and diagnosis in the large proportion of cases, it arises from slight and transient causes, and if we keep the several conditions resulting in the infiltration of albumen in mind, by timely and judicious management we will generally be able to avoid the graver lesions. But, as we have seen, albumenuria is dependent upon such varied causes, that we shall find no "royal highway," no "eliminative treatment," no "safe kidney-cure" applicable alike to all cases. Rest may be the remedy for one, exercise for another;

antiphlogistics for one, tonics for another. If we prescribe without comprehending causes and pathological changes, it will be well for our patients if we confine our treatment to the higher dynamization of Hahnemann, and, as Fothergill says, "the man who would make his diagnosis of chronic renal disease turn on the mere presence or absence of albumen, is a man whose patient I should not like to be." As its significance is derived from the conditions under which it occurs, a knowledge of the conditions is essential to both treatment and prognosis. When it arises from excess of albuminous food, lessen the supply. If the loss is so excessive as to impoverish the blood, it is easy to say increase the albuminous food, but the remedy is not always so simple. By such a course, Fothergill says, "by the splitting up of albuminous bodies in the liver, much nitrogenized waste is produced, which is a matter to be avoided." Astringents, vegetable and mineral, have been recommended in such cases, but are of doubtful efficacy. Opium may check the flow of urine, and so of albumen; but if, as is often the case, it is associated with uræmia, opium is contra-indicated. Hot baths, warm clothing, a belladonna plaster over the loins, or hot poultices, alkaline laxatives, buchu and iron, a largely farinaceous diet, with fatty and fish foods, and where there is anemia, cod-liver oil will usually meet the indications in this class of cases. In the albumenuria following scarlatina, careful protection to the skin, especially in chilly weather, is of the utmost importance; and in all cases associated with exhaustion much care must be taken to protect against cold. Hæmetics, combined according to cause and condition with potash and purgatives, are of quite general applicability. Barnard, of the Albert Edward Infirmary, recommends fuchsin, one grain, gradually increased to three grains, three times a day, combined in pill with comp. tragacanth powder and extract of gentian. We have not tried it. Burduzzi found chloral especially advantageous in the albumenuria of the last month of pregnancy. Albuminous urine in pregnancy, associated with more or less dropsy, chiefly confined to the extremities, with abdominal tension, the urine normal in quantity, or sparse and colored, with little anemia, and no hypertrophy of the left ventricle, especially if the patient is a primapara, it is against "law and gospel" to interfere with the pregnancy. Such cases will usually do well with little medication if they are instructed to lie down frequently, occasionally in the knee-chest position, and observe proper hygienic regulations.

The causes and conditions of albumenuria, as we have seen, are so varied that each case must be considered separately. Comprehending its etiology and pathology, a rational treatment will be a logical sequence.

PHYSIODERM AND PATHODERM.

BY W. W. COCHRANE, M.D., ATCHISON, KANSAS.

The paramount question engaging the attention of scientific workers for the last decade has been the primordial existence of the universe and its occupants. The investigation of this complex and yet unscrutable question has resulted in deciding one of the points at issue which has a near relation to the medical profession. Be their primordial origin what it may, living organisms are now acknowledged to be derived from the differentiation of or emanating from organic life and not of spontaneous origin. It has been after exhaustive scientific investigation decided authentically that there are existing in all living beings micro-organisms in immense numbers. Embryonic protoplasm becomes a living organism, and by proliferation produces intelligent living agents with functional power to build and maintain all animal and vegetable corporeal fabrics. Notwithstanding the vigorous and persistent condemnation of this so-called germ theory, it has emerged from obscurity, and all opposition has been dissipated save idiotic skepticism or ignorant incredulity. The definite conclusion of this theory is of momentous importance to medical science, inasmuch as it not only gives a scientific basis to the etiology of disease, but it has initiated an entire new mode of therapeutical investigation. Instead of, as heretofore, attributing diseases to the vague zymosis or distant heredity, and endeavoring to conceal our ignorance by vapid sophisms on climatic or telluric influence or the misfortunes of progenitors, we now with bold temerity can capture the micrococci, harness up the young animal, and with curb and rein drive with him to a definite scientific harbor of practical knowledge. Embryonic protoplasmic nucleus proliferates into numerous animalculæ. In the fecundated ovum there is a small speck which, so soon as its vitalizing incubation is ended, commences its wonderful work with active energy. They increase in numbers, and in constant motion form and build the structure destined to become their future tenement. They are intelligent, endowed with intricate and effective power to not only build, but at all times to preserve the human system in its normal integrity. They derive their nourishment from the pabulum of the ovum until they emerge into active life, when they are enabled to secrete a semi-fluid which they form into cells and place in juxtaposition to form the different tissues. Each cell varies in composition, as when aggregated to result in forming muscle, cartilage, bone, nerve—each variety so connected as to shape tubes solid, or flexible mass. All this is done with celerity and unvarying accuracy, indicating an intelligence beyond comprehension. After their com-

pletion of the anatomical fabric they do not abandon it, but when the embryonic life of the human being ceases and animated existence is established, they continue to inhabit it as a tenement as long as it is a living system. They live within its precincts as a parasite enjoying a generic life, for the purpose of work, fructification, and perpetuating their own species as do the creatures of a larger growth or genera. In the intricate digestion of the human being, these physioderm are the true agents of assimilation. So soon as the varied articles of food enter the stomach, the small animalculæ, swarming in the gastric juice, attack it, extract the nitrogenous matter, and in their own tiny apparatus prepare and carry it to its appropriate position, depositing it for purposes of normal utilization. In all so-called chemical changes of the animal system they are the sympathetic agents. Fermentation is but a process of manufacturing or brewing of the various liquids of the body in the laboratories of these physioderm—the yeast being but the receptacle of their spawn; and when this is supplied with the requisite heat and moisture there germinates from this egg a specific workman to fill the decimated ranks of their progenitors. They not only build the entire body, but maintain continuously the whole functional system by conducting both the afferent and efferent vascular process. They build, they nourish, depurate and repair the entire physical system; they are the motor power in all functional activity; they are the vis medicatrix of convalescence in traumatism; they supply the lymph that heals by the first intention. In ulceration they form the granulations essential to the reproduction of normal tissue, as the vis vita, the subjective force, the momentum of physiological action. The student and scientific physician will find it imperative to thoroughly and continuously familiarize themselves with their attributes as well as their functional condition. When these infinitesimal physioderm are normally vigorous, in natural condition, the human subject requires no medication. When feeble or abnormally disturbed, it is then that a requisition is made for medical attention. It is then that the efforts of the physician to relieve or cure his patient depend on his success in appeasing or invigorating the micro-organism or physiological parasite. For not only do they preserve, but they at all times stand as sentinels or soldiers to resist any and all noxious encroachment upon their domain. At all times regenerative, vigilant and efficient, were they undisturbed by an external element their animal tenement would live a deathless infinitude. But unfortunately for the human species, there exists an invisible organism in earth, air or water, of infinitesimal size and incalculable numbers, antagonistic, destructive to all animated nature. This generic living organism is the materie morbi; the zymosis, the contagio, the infectio, the proximate, the remote cause, the manufacturers of the pathology of all abnormal affections or disease of the human frame. These pathoderms are endowed with the natural instinct of securing food

and perpetuating their species. Varying in numbers and species, they infest, at all times and places, air and water in countless swarms and shoals, preying upon either vegetable or animal organisms. As with insects of visible existence, they are subject to natural vicissitudes; vary in average life from the ephemera to a season's age. They copulate, deposit eggs and die. Certain species are indigenous to certain localities; others appear at long intervals in immense numbers, devastate, and disappear for a long period. These pathoderms enter the human system by the lungs, alimentary canal or abraded surfaces, and finding the physioderms too feeble to destroy them, they cause mechanical irritation, or secrete a fluid for the protection of their eggs and larva to an extent that creates a local mechanical congestion or other pathological results, varying according to the peculiar species.

Each species of the pathoderm seemingly has a predilection for some special locality in the human system. Entering the vascular system, they swim along its tortuous course until they reach the gland or viscera, where from debility or inattention of the physioderm, the soil has become suited to their purpose. They deposit their eggs, which soon germinate into life in large numbers and devastate the locality, giving rise to the peculiar disease appertaining to the specific influence of the peculiar class.

These two genera of animalculæ, whatever may be their derivation, instigated or ruled by what they may, are now decided to be the arbiters of the human physical condition; yea, the very existence of vegetable and animal life depends upon the battles of these two tribes of infinitesimal beings. A good god and a bad god, contending every moment of time continuously with each other for possession of the organized frame—the one to preserve, the other to destroy. The time and work of the zealous advocates of this theory have been so much occupied in demonstrating its scientific truth and placing it beyond the reach of ignorant criticism, that as yet the code classification or nomenclature is in a confused and indefinite condition. So soon as the formulary shall be completed, the theory will be brought within the comprehension of the most obtuse, and the practical application will become the routine of the successful practitioner. Practical as well as hygienic medicine will then have a definite etiological basis upon which a clinical superstructure may be built, fully adequate to comply with the requisites to withstand scientific criticism and elevate the profession to a position impregnable to the scoffs of the world, who heretofore have designated medicine as but an experimental art.

RECTAL DISEASES IN WOMEN—THEIR REFLEX IRRITATION.

BY J. M. RICHMOND, A. M., M. D., ST. JOSEPH, MO.

As a rule, the amount of benefit which our patients receive from our treatment turns upon the point of a correct diagnosis. Judging from the number of failures made in rendering the promised relief, or the number of patients who go the "grand rounds" of the "faculty" unaided, it is but reasonable to suppose that we fail to get at the prime cause, or to take in the whole field in many instances. My thoughts have been directed in this line from my experience during the past few years in the class of diseases upon which my subject bears. And it is not the first time that my voice has been lifted in this direction in your hearing. Usually when one has strong convictions or is enthusiastic upon a certain subject, he is accused of having a hobby. Grant that he has: hobbies are reasonable, useful, and the means of progress, when not based merely upon an idea or theory, but when you can give "a reason for the faith that is in you," derived from an experience not only satisfactory to yourself, but comforting to your patients.

A woman whose alimentary canal, from mouth to anus, performs its function naturally and healthfully, is an exception. Irregularity in some shape has to be, or should be, corrected in nearly every female we treat. Constipation is no more a necessity in females than in males. It is acquired in girlhood, mainly from neglect and irregular habits, its hygienic importance not being impressed upon them. Mothers, and too, the "family medical adviser," are to blame for this fault in their physical education. Time alone is necessary to develop rectal disease in some form, besides the septicæmia from which they all suffer more or less, as well as various intestinal and stomach neurosis with their reflex troubles. As they grow into womanhood with its cares and responsibilities, they are apt to fall into the fashionable error of tracing their aches and pains, local or remote, to some so-called "female disease." Or if ignorant of what is the matter, she is not long in learning, either from some "knowing, suffering sister," who in poetic language "knows how 'tis herself," or some self-constituted "gynæcologist" with his "potent charm" and "days for females."

Once in this line and the rectum or any other region may suffer on and on, but the *womb* MUST be treated. Women are more sensitive in speaking about the rectum and its functions than they are about the womb. And it is usually an extreme case of suffering when one voluntarily tells you about it. In every instance when I fail to find satisfactory cause for any irritation springing from a pelvic origin, I insist on a rectal examination. When I find fissure or hemorrhoids, whether

the patient complain of pain or not, I insist on first getting rid of them, blaming them for their share in the trouble.

In these cases you cannot appreciate the damaging effects of piles, and especially of irritable ulcers, until they have been removed. When removed, means must be taken to prevent their recurrence. This is done by correcting any irregularity of the bowels, whether a tendency to constipation or diarrhea. This is troublesome to the patient, for it is best done by hygienic and dietetic measures, only the main points of which I will mention. Outdoor exercise, walking, riding, fresh air, sunlight, bathing, friction, kneading, drinking plenty of water night and morning and between meals, regularity in all habits, especially in going to stool at a certain hour every day. Eat fruit, cooked and raw, and plenty of good bread and meat and such vegetables as agree. Should a mild laxative be necessary at times, there are sufficient to choose from that are good; my favorite is the "comp. liquorice powder." Should the patient be of the so-called bilious habit, possibly once in a while a pill of blue mass or a little calomel and ipecac will be good. In all rectal troubles a watery condition of the bowels is about as bad as constipation. So I always combine sulphur in my prescriptions because of the spongy-irritating nature of the evacuations resulting. The treatment for fissure is simple but effectual, viz., a temporary but perfect atony of the sphincters by forcible stretching. Formerly an incision of the nerves at the bottom of the ulcer was thought necessary; but it is not, except in rare cases. The patient should keep the recumbent position for several days, and bowels confined for five or six, when a laxative, followed by flax-seed enema, should be given. During atony of the sphincter the ulcer heals. An anæsthetic is necessary in the operation. The same procedure is best when we operate for piles.

I could cite numbers of cases from my record in proof of these points, but will burden you only with the relation of one case, as it was complicated, and illustrative of what a forcible dilatation can do.

Mrs. —, aged 39; married; the mother of several children, youngest 2 years old. Health was poor previous to last labor, since which time she has been of no use to herself or family, suffering almost constant pain or discomfort, which she did not know the origin of. Supposed she had female disease, for which she was treated, with but little or no improvement. I saw her first on March 3d. It was because of her suffering from an "inter-rectal" abscess that I was called there, she relating to me her various ailments. An examination revealed the presence of both fissure and piles, besides the abscess. After emptying well the bowels, having confined her to fluid diet, I requested the presence of Dr. Siemens, who gave ether for me. First the abscess was evacuated, then the sphincter paralyzed temporarily by forcible stretching; then, after incising the base of two hemorrhoidal tumors on

their cutaneous sides, they were ligatured. The recumbent posture was maintained and bowels moved on seventh day by a gentle laxative and flaxseed enema. Her recovery was steady and sure, after years of suffering. Now, six weeks, she expresses herself as perfectly well; is active, taking exercise and attending to her household duties as she has not done for years. Irritations of other pelvis organs have subsided.

I would call your attention to the great advantage of this apparently unscientific procedure of quieting a restless sphincter. In this instance a fistula was prevented after opening the abscess. The operation on the hemorrhoids was very much facilitated, besides prevention of pain afterwards by pressure. And the fissure was allowed to heal by removing the constant pressure and twitching of the sensitive sphincter. In this case, as frequently happens, it was necessary to excise a cicatricial-tit-like growth at the lower angle of the fissure, which seemed to contribute greatly to the suffering of the patient by entanglement of nerves.

SHALL A MEDICAL COLLEGE BE ESTABLISHED IN KANSAS?

BY J. A. LIPPINCOTT, LL.D., LAWRENCE, KANSAS.
[Chancellor State University.]

The most ample provision has been made in Kansas for the establishment and maintenance of a system of public education. While the founders of the commonwealth were meeting the trials and vicissitudes that always beset pioneer life, while they were heroically deciding the fundamental question of slavery or freedom, and even taking a singularly prominent part in the great war for the integrity of the General Government, they thought it worth their while to start a public school fund and to provide for its perpetuity. The public school is thus established upon a reasonably permanent foundation. Its benefits are within the reach of every citizen, without regard to social or other considerations. The provision made is also without limit, it may be added, as to extent and variety in the courses of instruction. The primary school is found within reach of every dwelling. Every considerable city has sought to perfect its graded and high school.

The State Normal School for the education of teachers, the Agricultural College, the State University, mark the completeness of the system. It is therefore not necessary in Kansas to plead with the people in the interest of popular education. The foundations are already laid. The questions now concern the efficiency of the schools and the direction in which they shall be developed.

A good deal of effort has been put forth in various parts of the country to establish the college, not so much as an integral part of the school

system, (for these so-called colleges are attempting to do primary and secondary work which the public schools do certainly as well, probably better,) but outside the system and as a more or less unrelated adjunct. Now, while it is an ornament to the community in which it has place, it is certain that useful colleges cannot be indefinitely multiplied. A college, in any just sense of the term, cannot be maintained in every town nor in every county. The people of Kansas seem to me to have failed to realize the difficulty attendant upon the establishment and maintenance of one of these higher seats of learning. There is little doubt that much of the college-building in our State has a most intimate relation to real-estate speculation. The main object, the better education of the people, would undoubtedly be more readily secured if this enterprise, enthusiasm and energy were directed to the perfecting of the public-school system, and especially to the strengthening and broadening of the high school. The State has established a college, and if it is not the best in the commonwealth, it ought without delay to be made so. The people have a perfect right to demand that it be made the best educational institution and the safest place for young people within our borders. I believe it is that now, but the people have a right to know that their children are under the best masters in literature and science, and also that the influences that surround them socially and morally are most wholesome.

I hold to the opinion, Mr. President, that we need to give less attention to the multiplication of colleges and more to the perfecting of our high schools; yet a college may be established and maintained wherever a generous liberality may elect to plant it. The first essential is a faculty of able professors; the next consists of apparatus of instruction and research. Buildings, laboratories, libraries may be had for money. Given libraries, rich in needed books, laboratories well equipped with the apparatus required by modern research, and means for the payment ment of adequate salaries, and you may secure the services of the best of masters in every line of education and of investigation. An endowment fund that would add buildings as needed, and in addition, yield an annual income of say $200,000, would secure a college with the reasonable promise of a fair future in any part of Kansas. It is not to be denied that there are certain undefined yet potent influences which cluster about an old college, and which no amount of money can secure for a new enterprise; yet with ample endowment and patient waiting, even this may be secured in a town or village otherwise insignificant. Students also, though their presence is not essential — certainly not in large numbers — will be attracted by the apparatus which wealth may collect, and conspicuous ability of famous professors.

Let me remind you, then, Mr. President, the question which you have asked me to discuss in this presence is one of serious gravity. In effect you ask me whether the time has come when the State of Kansas

may establish a medical college with reasonable hope of permanent and conspicuous success.

There are many and pertinent questions that instantly present themselves. How large must a city be in order to warrant the establishment within it of the medical college?

Shall the State University, with its singularly rapid growth, and its reasonable hope of real greatness, at this time or in the near future add the medical college to professional schools already formed?

These are questions that should receive the most careful consideration on the part of those who are professionally the best fitted to consider them intelligently and to answer them wisely.

When the time shall come and the Board of Regents shall enter fully upon a canvass of the question, it will be the part of wisdom to join hands with the medical fraternity of the State in a searching examination of the subject in all its bearings. Your request has set me upon a preliminary investigation, and the result of that investigation I propose to present to you to-day.

Before entering upon that examination, two preliminary points suggest themselves most forcibly to my mind. I give them expression in the confident belief that the position which I assume will receive the heartiest indorsement of the medical fraternity of the State.

1. There ought to be no attempt to establish a Kansas medical college until it can be done with a reasonable hope of success, of which the people of the State may justly be proud. It will not be wise to attempt the enterprise merely because some city or some syndicate of capitalists desire it. Our medical college shall not serve merely the purposes of a real-estate speculation. We shall not object to a gift of land and buildings that shall serve our purpose; but the object shall be, not an advance of real estate in the interests of even generous capitalists, but the establishment and endowment in the best possible manner of the medical college.

2. The success to be achieved must be a success not of mere numbers, but of work. The success of no school is to be measured by the length of the roll-call. Especially is this true in the professional schools. I do not know that any more stress is laid upon the "total enrollment" in the various schools and colleges of Kansas than in the Eastern States, but I do know that whether in the East or in the West, this is no true index of the success of the school. What of the thoroughness of the work done? What of the spirit which prevails? How much of courage, of patience, of hopefulness, of longing after a noble life, is implanted in its students? How much of a hopeful spirit does the college impart to other and especially to lower institutions of learning that come into relations with it? How many of its graduates go out to bless the world, and with an influence intensified and widened by the college culture which they have received? Answer these questions and

we will tell you of the success of your school. If your numbers reach 1,000 and you fail in these essentials of the highest success, it is a failure the more egregious because your numbers are large.

Hence, in answering the question which is tacitly propounded in my topic, I shall not be influenced altogether by the prospects of numbers of students. If I can determine with any degree of certainty how many Kansas youths study medicine abroad, I shall have but a small part of the material at hand to determine whether the time has come to make a beginning in the direction of a home medical education. Even if I could determine the proportion of young physicians who come to the State among the multitudes seeking homes among us, I am still unfurnished with the data necessary for the answering of the question which you have propounded to me. These figures would undoubtedly serve another very important purpose—they will indicate the demand for instruction in medicine; and if other elements of the problem prove favorable, they will serve as most excellent arguments to lay before a legislative committee when State aid is asked for the school.

What, then, of success in a professional point of view? Can we assure ourselves in advance that it is within our reach? This is a question to be professionally answered. I do not pretend to solve it. I do not try. Of one thing I may assure you: The State University, under its present management, does not wish to add a medical college to its present work unless it is reasonably certain to have from the start, and hold throughout, the confidence and support of the medical profession of the State. The University is notably successful. Its college of science, literature and arts, its law school, its school of music, its pharmacy school, have made already an honorable record and are rapidly advancing in efficiency and in reputation. Special courses have been worthily established, such as those in natural history, in practical chemistry, in civil engineering, and these are doing a work of which Kansas has no need to be ashamed. More, still, is true. Under our system of elective studies in the junior and senior classes students may make for themselves special courses in political science, in English literature, in German and French, in the classics and in the mathematics. Now, when a medical school shall be founded as a part of the State University, it must be under circumstances that fairly promise a success that shall be conspicuous even when compared with the schools thus already established. In taking this stand I am giving expression to my own most earnest desire and determination. I believe, also, that I express the sentiment of the Board of Regents. Do I not voice, also, the opinion of the medical profession of the State?

If the question were asked whether there is need of a medical college in Kansas, I scarcely know how a satisfactory answer could be obtained. The growth of the State in population and in all material

interest is enormous. So far as regards the primary and the secondary education, it needs no proof that our increasing population needs increasing school facilities. It may seriously be questioned whether the same thing is true of the medical college. Of the multitudes who seek homes in Kansas, it may be assumed that a due proportion are already physicians. Those of our own young people who desire to study medicine can find in Eastern cities the best of facilities; and however the saying of this may wound our State pride, it is doubtless true that it will be many years before any of the Western States shall be able to compete with these Eastern schools in the wealth of their facilities and in the skill of their physicians and surgeons.

In the month of February I sent out a circular letter to the physicians of the State. It was impossible to send to all, and I doubtless made mistakes in my selection, leaving out many men whose answers to my inquiries would have been invaluable. I tried to make good this unavoidable shortcoming by requesting those who received my letter to consult with other members of the profession so far as possible. The questions which I asked were as follows:

First—Does it seem to you desirable that there be established a medical college in the State of Kansas?

Second—Has the time fully come, in your judgment, to undertake the enterprise?

Third—Should it be undertaken as a part of the work of the State University and under the auspices of that institution?

Fourth—Two extreme courses are open to us (with possible modifications.) (1) To begin our work at once with a minimum of facilities; or (2) To wait until we can command means to establish a medical school of really first-class character. Which, in your judgment, would be better?

Fifth—What, in your judgment, would constitute a minimum of facilities with which we would be justified in making a beginning? (1) As to professors? (2) As to buildings, including hospital, and, possibly, free dispensary? (3) As to apparatus.

Sixth—Your attention is asked to our first year in medicine, as given on page 17 of the catalogue herein mailed. What would you think of strengthening and rearranging this course to meet partially the home demand, and then defer for a few years the establishment of a full course?

Seventh—What requirements in the way of a general education would you advise for admission to a Kansas medical college, or into our own preparatory medical course? I have thought we might insist upon the candidates finishing our sophomore collegiate work.

Eighth—What fees would you advise in case we establish our medical college? or for our own preparatory medical course?

These letters were mailed to a large number of practicing physicians of the State. Answers were received from about forty directly, and from

quite a large number indirectly; for many of those who wrote specific answers took pains to gather the opinions of others, and to incorporate that opinion with their own. It is not pretended that the opinion of the entire medical fraternity of the State is accurately presented in these answers, yet I believe we may fairly hold that the drift of opinion has been gathered. At all events, I would not like to assume that the replies which have been received very seriously misrepresent the profession.

The question at issue, bear in mind, is professional. I do not pretend to answer it. If I can in some way gather up the thought of the medical fraternity and reflect it in my capacity as speaker before this association, I shall have fulfilled my mission. This I have tried to do. I have tabulated the answers that came to me, and might, perhaps, give you in one sweeping statement a summary of the result. It will be more instructive, however, as I think, to present an analysis of the papers which have come to my hand.

My first question was, "Does it seem to you desirable that there be established a medical college in the State of Kansas?" The framing of this question I am ready to admit was not very felicitous. There are probably no physicians in the State who do not believe a first-class medical college in itself desirable. It must be, then, that those who answer in the negative (and there are sixteen such) believe that such a school at present is impracticable. That we are thus to understand the answer, is made probable by the general tenor of the letters in question. There are nine who express doubt upon the point, unquestionably for the same reason. There are eleven who declare a medical college desirable. A few fail to answer the question.

To the inquiry whether the time has fully come to undertake the enterprise there are eleven answers in the affirmative. Eighteen answer with a positive "no." Quite a number express themselves as in doubt. Some do not answer at all. If the duty were placed upon me of estimating the opinion of the medical fraternity of the State as to this point—the immediate establishment of a medical college—I should be compelled to say that the material placed in my hands makes it reasonably certain that a very considerable majority are opposed to it.

While five doubt the expediency of making a beginning now, four more answer in the affirmative, basing their reply upon the condition that liberal appointments shall be secured. Two answer "yes," and without conditions.

In answer to the question whether the medical college should be under the direct control of the Board of Regents of the State University and a part of that institution, I have thirty affirmative replies. Five fail to answer this question. Several parry it, and one thinks it should be a part of the University if the "pathies" can be managed. The almost entire unanimity of my correspondence upon this point is cer-

tainly satisfactory to me, and will doubtless gratify the many friends of the University.

The fourth question was in two parts. It inquires whether the medical college should be undertaken with a minimum of facilities, trusting to time for the needed enlargement, or whether it would be better to wait until means can be commanded for the establishment of a medical college of the highest character. Eight replies urge an immediate beginning. Of these eight, one says that the physicians with whom he consulted, in one of the largest cities in the State, do not agree with him in opinion. Ten advise that no beginning be made until a school of the highest character shall be assured. There are several who do not answer the question directly, and one expressed doubt.

The fifth question asks the professional opinion of those to whom the letter came regarding the necessary equipment of a medical college. Of course such a question would naturally bring out a great diversity of answers. Eleven of my correspondents answer in substance, saying that whenever a Kansas medical college is established it should be with buildings of the best modern construction, amply supplied with lecture rooms, laboratories, and with apparatus, and with character and professional skill. In addition to this, it is declared to be absolutely necessary that hospitals and dissecting rooms be provided, and furnished in accordance with the latest developments of medical science.

The University of Kansas has now what is called "a first year in medicine." The course of studies, extending through the collegiate year, comprises the following subjects: Chemistry, laboratory work in analytical chemistry, human physiology, comparative anatomy (with dissections), botany, physiological chemistry, toxicology, and materia medica. These subjects are studied in our regular classes — chemistry and toxicology under the tuition of Prof. Bailey, physiology and botany with Prof. Snow, comparative anatomy with Prof. Dyche, and materia medica with the classes in pharmacy under the tuition of Prof. Sayre. This course is only what it pretends to be — a first year in medicine. If well mastered, it ought to shorten a student's course in a medical college by that much. Indeed, those students who take this course in the University of Kansas find themselves fully prepared for the second year of medicine in Chicago, Cincinnati, and St. Louis. This much we do thoroughly; we do not pretend to accomplish more.

The sixth question calls attention to this preparatory medical course, and calls out the utmost variety of opinions. Some of my correspondents think it a good thing, and advise that it be strengthened and held until the time comes to add two more years and complete the course. One correspondent thinks we are giving diplomas and that we are flooding the State with ignorant "M. D.'s" who are likely to drive out worthy practitioners. Another advises that we give it up at once and establish

a college. One man says that he could not advise a student of medicine to come to us. He thinks he should "read" in the office of a practicing physician or at once enter a reputable medical school. Still another thinks our course so lacking in the essentials of a medical education that to compensate our students for loss of time and misdirected energy, we should charge no tuition, but, instead, pay them each $1,000 a year! There is certainly no lack of candor in this. We may safely assume, I think, that these correspondents felt entirely free to express their honest opinion.

The whole correspondence reveals the fact that in the profession there is a pretty strong feeling against the admission to medical colleges of young men with meager preparation. An unexpectedly large percentage holds that graduation from college should be inexorably required as a preparation for the study of medicine. A majority, following probably the suggestion of my question, places the requisite for admission to the medical college at the end of the sophomore year. A few say that candidates for admission should be prepared for the freshman class. One thinks that a good English education is sufficient.

If I may be allowed to summarize this analysis, I will do so in the following propositions:

First—A very decided majority of my correspondents believe that the time has not yet come to establish "a Kansas medical college."

Second—A like majority believes that to make a beginning with inadequate appliances in the hope that the enterprise will grow into a college of high character is vicious in principle and will prove unsatisfactory in result.

Third—As correlated with this view they hold that it will be the part of wisdom to delay the establishment of a medical college in the State until the enterprise may be assured of all modern appliances from the beginning.

Fourth—When the college is established, it should be under such control and so completely endowed as that it may be wholly independent of tuitions. Number of students ought not to be an important consideration; thoroughness of work should be the sole condition whether of admission or of graduation. No real or fancied need of tuitions should tempt to the lowering of this standard.

It may be allowed, I hope, to quote from many letters a few paragraphs bearing upon these and other points. One physician writes:

"Your subject is one of vast importance, and should deeply interest every physician in the State. The crying need in our profession is for higher education. Kansas ought to build up and support one good medical school, and, in my judgment, the standard cannot be too high. We already have too many 'mills' where quantity and not quality seems to be the aim."

Quite in accord with this is another letter which I am tempted to

quote almost entire. The writer is well known in medical and other circles, and his words are weighty:

"I answer your first question—whether it seems desirable to establish 'a Kansas medical college'—emphatically, no. The crying evil of the day is the multiplication of small medical colleges. There are already far too many for the needs of the country. Hundreds of students are admitted who ought not to be, and hundreds of half-educated graduates are every year turned loose upon an unsuspecting community. What we need is a raising of the standard of admission and of the course and methods of study. An effort in this direction is now making and some progress has been made, but it will not and cannot be satisfactory so long as the present system of competition to attract students remains in force. This can only be made worse by establishing more medical schools in small towns and cities without proper facilities. The tendency [effort] must be to thin out the number of students by making it more difficult to acquire a medical education. At present the so-called medical education is gotten very easily and is worth little. In my judgment, a medical college has no business to exist outside of the very largest cities, where alone can at least two of the absolutely indispensable requirements be found."

A physician in one of our largest cities writes in the same vein, and adds: "I most certainly and forcibly oppose the starting of any second-class school with a minimum of facilities. Such an institution would be merely a curse, and I should do my best to deter any friend from attending."

In singular contrast with these letters are the following quotations from three of my correspondents: "The time has come for the establishment of a medical college in Kansas. Begin work at once with a minimum of facilities and trust to the future for more elaborate means." "Kansas aspires to a prominent position among the States of the Union, and it is the duty of each one of her citizens, in proportion to his opportunity, to assist in maintaining any institution that may have a tendency to elevate and increase her general prosperity. That a medical college would aid in the effort to excel, there is no question." "The only tenable question in the premises is feasibility, and this should be at once thoroughly tested. Details at present are of minor importance. Once secure a nucleus or basis, and talent will insure a successful superstructure." This writer adds with singular candor: "The physicians of this city are not generally favorable to the project."

Yet one quotation more in this line: "I think Kansas can abundantly maintain a medical school, and, consequently, ought to do so. The time has fully come when it can be expected to project such an enterprise. You should begin the work with the minimum of facilities rather than wait. By gradual work more will be learned of perfected

ways of conducting the enterprise, and failures can be corrected in detail with little disturbance."

I will quote one more sentence from a carefully prepared letter in regard to a point that is made prominent by many of my correspondents:

"The college should be fully endowed by the State, thus lifting its professors above the necessity of competing with other colleges for their fees, and above all temptations to graduate students who are not competent to take charge of the health interests of the people."

Thus far, Mr. President, I have done little more than to attempt to reflect the various opinions of members of the medical profession who have courteously replied to my inquiries. I do not claim to have very definite opinion as to the professional points that have been raised, yet looking at these questions from the standpoint of an educator, I ask you and the Association to consider a few suggestions which seem pertinent to the occasion and to the subject.

First—Medicine is one of the learned professions. It has been so regarded from the earliest times. The physician's work requires and presupposes scholarly culture. It is not enough that he merely learn a trade. The professional training should be added to the scholastic discipline. It seems to me that you owe it to your profession to take a resolute stand for this sequence of work. It is not a hardship, certainly in Kansas, to require that every youth who aspires to become a physician shall first secure a thorough education. There is no young man in the State who may not, if he will, secure a collegiate training. Public provision has been made, free of cost to the individual, from the primary grades to the collegiate. The student of course must support himself, the State furnishes tuition. A few years ago a careful inquiry brought out the fact that a full third of all the graduates of the State University had, unaided, earned the money which it had cost them. Many of the rest it was found had also contributed in varying proportions out of their own earnings to pay for board, books and clothing while at the University. I can easily understand how it might be a hardship to require a high standard of scholarly culture to enter the ranks of the medical profession, if the means were not also provided for securing the qualifications. It would be a calamity to limit the profession to the rich. With the provisions, however, which the State has made there can be no injustice, nor any apprehension, in requiring that young men and young women who seek recognition among us as physicians shall prove their scholarly fitness for the distinction.

Second—I cannot claim a very intimate acquaintance with medical colleges, yet I believe my knowledge of them both in the East and in the West is such that I may say that they often, if not generally, receive

students lacking the culture of the schools, and that there is no provision in the course designed to remedy the defect. We insist strenuously upon the value of the clinic, the dissecting-room and the hospital to one who is making preparation for the medical profession; yet, in all this, there is nothing that tends to secure scholarship as such.

Third—I am not sure but that I may state the case yet more strongly. These more showy parts of the course, however essential they may be, have a tendency to draw the student's attention away from less attractive, but more essential pursuits. A physician ought to have a thorough knowledge, professionally, of chemistry, pharmacy, materia medica, of botany, of physiology, and of anatomy, human and comparative. He should know how to use the microscope and should be familiar with the practical methods of the laboratory. The field of histology belongs preëminently to the physician. Moreover, he should learn how to use books. The physician must hold such relation with books and periodicals as to enable him to consult easily with the past and at the same time keep pace with the present. A physician without a library, or ignorant of the best use of books, must inevitably drift to the rear in his profession.

Fourth—In my judgment, the college or university offers the very best facilities in the directions that have been indicated. The laboratories and museums are more extensive; the libraries are more complete; the professors are preëminently teachers, devoted wholly to the one line of work—instruction. This furnishes the best apparatus of education at the least cost. But the value of the education secured by medical students in the college classes and laboratories is greatly heightened by another consideration. Students who seek the different professions work side by side. If two students in the same laboratory give attention to the same chemical reaction, one with the expectation of becoming the master of a smelting-furnace, the other with a view to medicine, it is certain that each will go out to his life-work with broader and more liberal ideas than would otherwise have been possible. Do you not believe the world much wider and much richer in its furnishing to two men who study microscopy together, the one a botanist and the other an entomologist? Yet another suggestion, and one, to me, of vast significance. The medical student whose associations are in the college or university, cannot help feeling the force of the literary culture by which he is surrounded and being largely influenced by it. It is of surpassing moment that during the student-life, these candidates for the learned and honorable profession of medicine associate with men of literary and scientific accomplishments and culture. The value of this to the profession cannot be overestimated.

Fifth—There thus seem to be two antagonistic requirements: (1) For scholastic reasons, a course in the fundamental branches of physiology, anatomy, chemistry, materia medica, etc., under professional

instructors, and under the general influence of the scientific and literary college; and (2) a professional training in clinic and hospital under the direction of eminent practicing physicians. The first of these may be had as well in a small town as in the center of a great population—must be had, if at all, in the closest relationship with the college or university. The second can be found solely in the great city.

Sixth—I am inclined to think that a course might be established which would reconcile this antagonism. A nearly parallel course in our school of pharmacy presents a similar difficulty which has been completely solved. The student of pharmacy takes a thorough two-years course at the university and receives a certificate stating that fact. He then seeks the actual practice of the drug store. After an apprenticeship in this manner of two more years he presents to the dean of the school of pharmacy a testimonial stating that his work has been satisfactory and he is then given his degree and diploma.

I would suggest that students seeking a medical course take the collegiate work through our sophomore class. Let them then select as their "optionals" a carefully prepared medical course under the most skillful instructors and with all the appliances which can be secured outside of the great cities. Such course should be made to cover two full school years and should contain everything which can be taught didactically in a medical course. In addition, whatever can be made to contribute to the educational equipment of the physician in the use of the various laboratories in physics, chemistry, pharmacy and natural history, in the use of the microscope and of the various museums, in such dissections as serve to illustrate comparative anatomy and in the use of a well-furnished library should be brought into requisition under the direction of expert instruction. I suggest that, for the present, some arrangement be made with the best of the Eastern medical colleges to receive our students thus prepared and give them a year of the best clinical and hospital practice.

I believe there are very great advantages in this plan. First, the medical student is comparatively well educated when he enters upon his medical studies. Secondly, under experienced teachers—men whose sole business is instruction—he is thoroughly drilled in all the fundamentals of his profession. He studies chemistry under an expert chemist, and in a laboratory where the whole current is toward thoroughness of work. In the metropolitan medical college the clinic and the hospital are more likely to catch his attention before these fundamentals of a solid preparation are fairly mastered. Thirdly, when he enters the hospital and dissecting-room, after the preparation which has been proposed, he is prepared to make the utmost possible use of the opportunities afforded.

Some such plan as this, Mr. President, carefully devised by those whose professional attainments will assure it a general indorsement,

will assure the best results with a minimum of expenditure, and will tend steadily and surely to raise the standard of the medical profession in the State.

NECROLOGY.

D. W. STORMONT, M.D.

Dr. Gaston Boyd, of Newton, presented the following memorial on the death of Dr. Stormont:

Perhaps there is no subject in the world upon which more is said and written, and yet at the same time about which so little is known, as death.

Medical writers, who are earnest and devoted students, bewail their inability to cope with the unknowable in disease and remedy; and the faithful practitioner oftentimes finds himself at sea amid the diametrically opposite views of established authority. Yet this does not leave him staring at a blank wall, so to speak, as when death steps in and cuts short all necessity for further remedy.

Death is not annihilation—not of the body, for no particle of matter is ever lost. The present elements are resolved, and enter into new combinations. Not annihilation of the intellectual faculties; for how unreasonable to suppose that that which renders the physical of any importance should be so worthless upon the occurrence of this great change.

One of the strongest arguments in support of the immortality of the soul has been thus forcibly presented by Lord Brougham. He says: "The body is constantly undergoing change in all its parts. Probably no person of the age of twenty has one single particle in any part of his body which he had at ten, and still less does any portion of the body he was born with, continue to exist in or with him. All that he before had has entered into combinations, forming part of other men, or of animals, or of vegetable or mineral substance; exactly as the body he now has, will afterward be resolved into new combinations after his death. Yet the mind continues one and the same without change or shadow of turning.

"If the strongest argument to show that the mind perishes with the body be derived from the phenomena of *death*, the fact to which we have been referring affords an answer to this. For the argument is, that we know of no instance in which the mind has ever been known to exist after the body. Now, here is exactly the same instance desiderated; it being manifest that the same process which takes place *more suddenly* at death is taking place more gradually, but as effectually in *result*, during the whole of life; and that death itself does not more completely

resolve the body into its elements and form it into new combinations, than living fifteen or twenty years destroys, by like resolution and combination, the selfsame body. And yet, after all those years have elapsed, and the former body has been dissipated and formed into new combinations, the mind remains the same as before, exercising the same memory and consciousness, and so preserving the same personal identity as if the body had suffered no change at all. Here, then, we have the proof so much desired—the existence of the soul after the dissolution of the bodily frame with which it was connected."

Death is not known to be disastrous. It seems so, because it breaks present and valued plans, wounds the hearts of those nearest and dearest to us; and interrupts those pleasant and profitable associations that go to make up the happiness of this life. Yet with the most favorable environment, this is a life of limitations; we are constantly striving to reach beyond these limitations which confront us, turn which way we may, and as constantly we do suffer failure and disappointment. This life is spent in forever reaching out for the unattainable. What is this restless, eager longing that possesses us? Whence does it come? May it not be the manifestation of the power of the soul, to which the body union is as the clipped wing to the lark? Death, then, may introduce the soul to conditions of more noble and exalted forms of activity. The higher life of affection and devotion, of memory, of worship, of love of the beautiful and good, of communion with and comprehension of truth, and with spirits of like sympathies; these, the grandest and best activities may be exercised without the body—certainly without such a body as this.

The body, the mind, the soul! By what rare and delicate alchemy are these resolved, but by the Divine Alchemist who first produced the combination? Let us not for a moment think any change, however mysterious, shall result in the annihilation of these elements.

Then what can we say death is? "It is that state of being in which there is total and permanent cessation of all the vital functions, when the organs have not only ceased to act, but have lost the susceptibility of renewed action—the extinction of this bodily life."

But whatever death is or what it is not, beyond our power of proving, is now fully understood beyond peradventure by one of our members, who was lately esteemed and honored by us. We have now but the memory of him left to us; but that may incite us to deeds of charity, to faithful endeavor, and to a broad and benevolent brotherhood which shall embrace the whole human family.

You need not be told that reference is here made to Dr. D. W. Stormont, who departed to "that bourne from which no traveler returns" on the night of August 18, 1887.

It seems an act of supererogation to inform this honorable body of the worth and attainments of one so well known to it. So, more with

the desire to commemorate his memory than with the hope to add to your present knowledge of him, is this paper submitted to you.

Dr. Stormont was born at Princeton, Indiana, in 1820. After attending the schools of this village he entered the University of Indiana, from which he received the degree of Master of Arts. Soon after leaving the University he took a course in the Ohio Medical College, at Cincinnati, and afterwards entered the medical department of the University of Pennsylvania, from which he graduated with high honors. Thus he entered life fully equipped with a fine education, and this gave him the ability and desire not only to interest himself in advanced thought in his chosen profession, but also in that of all the living and important questions of the day.

Dr. Stormont began the practice of medicine at Grand View, Ill., in the year 1845. After seventeen years of successful practice here, he removed to Kansas, locating in Topeka in the year 1862. His genial nature soon made him many friends, his skill as a physician gave him a place in the front ranks of the profession, and his general intelligence and business ability made him a citizen valuable to his town, and foremost in every enterprise conducing to its growth, and to the general good.

It is with his life since his location at Topeka that the writer has the best acquaintance. He was ever active in his endeavors for organized effort in his adopted State, and did much to bring about whatever of dignity and usefulness professional organization has attained. At the time of his death he was a member of the State Board of Health; was President of the Eastern Kansas District Medical Society, and a member of the Judicial Council of the American Medical Association, of which association he had been an honored member for the past twenty-five years.

He was one of those who are ever ready to investigate a new thought or project. He said it was the height of foolishness to reject, without thorough research and unbiased judgment, that which seemed to conflict with well-established theories even. He was never bigoted, nor was his path so narrowed that it was impossible for him to step out of the old ruts if a more desirable way presented. No; he was progressive in the best sense of the term. He was a thorough and faithful student, and ever ready to give the benefit of his hours of research to the profession, as was evinced by the many articles of superior worth which he contributed.

Less than a year ago he gave to the writer a very interesting account of how his attention had been drawn to the study of orchids; how he had read everything he could get hold of relating to them; that he visited the greenhouses in large cities, making inquiry of the florist as to the habits and nature of this very peculiar class of plants; and how, finding himself too much engrossed by the weird and strange

things claimed by some of the writers upon this subject, he had felt it wise to discontinue his study of them.

This goes to show the zest with which he entered upon any undertaking. Life was still full of strange, new things; he had not exhausted the fountain of happiness; but with each year the best side of his nature was so developed that the relish for everything of interest to the world grew upon him and became of importance to him. He was of genial disposition in a marked degree. He much enjoyed good-fellowship with his friends. He entered the sick-room, bringing good cheer, such as benefited the patient ofttimes as much as did the remedies.

He enjoyed recounting the good times of long ago; scenes in which novel experiences, jolly associations, and good, healthful fun abounded.

His kindness of heart made nothing a task that he could do for the pleasure or advantage of a friend, and very many of his fellow-creatures could testify to many acts of kindness and charity performed without ostentation or reward. One has fitly said of him, "No man can look over his busy life and point to a single spot that is touched with dis honor. He was the soul of honor."

Amid the ministrations of loving friends, in his own home, in the presence of the faithful wife to whom he had been fondly attached for so many years, he neared the portal which we call death; not "like the quarry-slave at night whipped to his dungeon," but "like one who wraps the drapery of his couch about him and lies down to pleasant dreams."

We who are here cannot fail to miss the familiar figure, nor fail to remember with increased pleasure the hearty greeting, the kindly interest, the encouraging word he ever had for the younger and less experienced of us. Let us strive to emulate his example, and cultivate a like generous spirit, so that he, being dead, may yet speak in the increased fraternal fellowship which shall exist among us.

"Thou art not in the grave confined —
Death cannot claim the immortal mind;
Let earth close o'er its sacred trust,
But goodness dies not in the dust."

Dr. Fulton presented a paper in memory of Dr. G. R. Baldwin, of Fort Scott.

Several members spoke in eulogistic terms of Dr. Stormont, and a committee was appointed to draft resolutions of respect.

G. R. BALDWIN, M. D.

Dr. G. R. Baldwin, of Fort Scott, Kansas, whose death occurred on the 4th ult., was one of the most widely-known physicians in the State. In addition to an enviable local patronage, his consultation practice extended over many counties in southeast Kansas and southwest Mis-

ouri. Dr. Baldwin graduated at Bellevue Hospital Medical College, served as assistant surgeon in the civil war, and located at Fort Scott in 1866, where he continued to grow in favor till his death. It is not too much to say of him that he had few peers in the State. He was a man of marked professional ability and general attainments. He loved his profession and admired high professional qualifications and integrity in his associates. He always frowned upon quackery and ignorance in medicine, and never permitted himself to be associated with those whom he did not consider worthy and well qualified. Dr. Baldwin was a typical family physician, and was truly and justly admired by his many patrons, as well as by those who enjoyed an intimate acquaintance with him. The following resolutions, adopted at a meeting of his professional associates, speak in unmistakable terms the sentiments of the community:

Resolved, That the medical profession of Fort Scott has received, with profound sorrow, the announcement of the death of Dr. Garrett R. Baldwin.

Resolved, That in his death the profession in which he was an honorable member, distinguished for his attainments and abilities, has met with an irreparable loss, while we, as individuals, have lost a friend and brother who was ever and always ready and willing to assist and aid with cheering sympathy and advice, and active and positive assistance, whenever and wherever possible.

Resolved, That to know Dr. Garrett R. Baldwin was to love him as a man, and to revere and admire him for his eminence and deserved standing in his chosen profession; and we do hereby extend to his bereaved family, the beloved wife and children, our most profound sympathy and grief at the great sorrow that has overtaken them in their affliction. Knowing well that at such times as these the most sincere words of consolation fall upon the ears of stricken loved ones as hollow form, and that time alone can give relief from the acute agony of grief, we can assure them that our sympathy goes out to them in this hour from our heart of hearts, in accord with regrets and sorrow of the whole community in which he had so long lived and labored, and in whose confidence and love he had so deeply and firmly intrenched himself.

Resolved, That as a further mark of respect and esteem, the members of this profession will attend his funeral in a body.

B. F. HEPLER, Chairman,
H. D. BAKER, Secretary,
R. AIKMAN,
I. S. SANGER,
J. B. CARVER,
Committee.

CONSTITUTION AND BY-LAWS.

[ADOPTED MAY 2, 1888.]

ARTICLE I.—*Name.*

SECTION 1. The name of this Society shall be THE KANSAS MEDICAL SOCIETY.

ARTICLE II.—*Objects.*

SECTION 1. The objects of this Society shall be the advancement of medical knowledge, the elevation of the medical profession, and the

promotion of all measures adapted to the relief of suffering, the improvement of the health and the protection of the lives of the community.

ARTICLE III.—*Members.*

SECTION 1. The delegates shall receive their appointment from organized county or district societies, in the rates of one for every five of their regular resident members, with an additional delegate for a fraction greater than one-half that number, and shall hold their appointment for one year.

SEC. 2. The permanent members shall consist of those who are members of this Society at the time of the adoption of this Constitution, and who shall continue to conform to the By-Laws; and of those who have served in the capacity of delegates, and have maintained their membership as provided by the By-Laws. All members three years in arrears for annual dues shall be reported by the treasurer to the Judicial Council.

SEC. 3. Physicians and surgeons eminent in the profession who are non-residents of this State, or graduates of medicine who reside in the State and have retired from practice, may be elected honorary members.

ARTICLE IV.—*Officers.*

SECTION 1. The officers of this Society shall consist of a President, two Vice-Presidents, Secretary, Treasurer, Librarian, and a Judicial Council of five.

SEC. 2. The officers shall be elected at the annual meetings, and shall hold their offices for one year or until their successors are elected, except the Judicial Council, which shall be elected, one for one year, one for two years, one for three years, one for four years, and one for five years; and thereafter one shall be elected annually.

ARTICLE V.—*Meetings.*

SECTION 1. One regular meeting shall be held each year, at such time and place from year to year as the Society may elect. Special meetings may be held as provided by the By-Laws.

ARTICLE VI.—*Code of Ethics.*

SECTION 1. The Code of Ethics of this Society shall be that of the American Medical Association, which is hereby acknowledged as binding upon all its members.

ARTICLE VII.—*Punishments.*

SECTION 1. This Society shall have the power to censure, suspend or expel any member convicted of violating its provisions, or who may be guilty of any act which may be considered derogatory to the honor of the medical profession, on the recommendation of the Judicial Council,

and in the manner provided in the By-Laws, and by a vote of three-fourths of the members present.

ARTICLE VIII.—*Auxiliary Societies.*

SECTION 1. The members of the profession in any county or district in the State may form a county or district society, which shall become auxiliary to this State Society, and entitled to send delegates whenever its constitution and by-laws have been approved by the Judicial Council of this Society.

ARTICLE IX.—*Amendments.*

SECTION 1. This Constitution may be amended or altered by the proposed amendment or alteration being submitted in full in writing at an annual meeting, and spread upon the minutes. At the next annual meeting it may be taken up and acted upon; and if the proposed amendment, or the substance thereof, receives the vote of three-fourths of the members present, it shall be adopted.

BY-LAWS.

ARTICLE I.—*Duties of Officers.*

SECTION 1. The terms of the officers shall commence at the close of the meeting at which they are elected.

SEC. 2. The President shall preside at all meetings of the Society, preserve order, appoint all committees not otherwise provided for, sign all orders upon the Treasurer for the payment of money when ordered by the Society, and perform such other duties as the Society may require of him. At the annual meeting during his term of office he shall deliver an address upon some appropriate subject.

SEC. 3. In the absence of the President, the first Vice-President, and in his absence also, the second Vice-President shall act as President. In the absence of the President and both the Vice-Presidents, the Society shall elect a President *pro tempore.*

SEC. 4. The Secretary shall keep a correct record of all the proceedings of the Society, and prepare the same for publication, and shall have charge of and carefully preserve all the books, papers and other documents of the Society, and keep a list of the members, with their post-office address; notify new members of their election within thirty days thereafter; conduct the correspondence; attest all orders drawn upon the Treasurer by order of the Society; and discharge such other duties as may be required of him; and make a report of his doings, and the condition of the Society, at each annual meeting.

SEC. 5. The Treasurer shall have charge of the funds of the Society, collect all fees, dues and fines promptly, and keep a correct account thereof; pay out moneys only on orders signed by the President and attested by the Secretary; and at each annual meeting submit a detailed

report of the exact condition of the treasury; and at the end of his term hand over to his successor all the moneys and other property in his possession belonging to his office.

SEC. 6. It shall be the duty of the Judicial Council to examine the constitution and by-laws of the auxiliary societies, and when approved, to transmit a copy to the Secretary of this Society with their approval. They shall examine into all ethical questions which may come up on appeal from any auxiliary society or in this Society, and give their decision thereon to this Society through the Secretary, annually.

SEC. 7. It shall be the duty of the Librarian to preserve all the books, pamphlets and pathological specimens belonging to the Society, and keep the same where they can be consulted and examined by the members as they may desire.

ARTICLE II.—*Committees.*

SECTION 1. Four regular committees shall be appointed at each annual meeting, to report at the next annual meeting, to wit: A Committee on Practical Medicine; a Committee on Surgery; a Committee on Obstetrics; and a Committee on Materia Medica. Special committees may be appointed to report on special subjects, on recommendation of the Nominating Committee.

SEC. 2. The Committee on Nominations shall consist of one member from each county represented in the meeting of the Society, which member shall be named by members of the several counties, who shall report to the Society the names of suitable persons for officers and for the regular committees for the ensuing year. They may also nominate special committees to report on such subjects as they may deem advisable.

SEC. 3. At each meeting there shall also be appointed a Committee of Arrangements and Credentials for the ensuing meeting, whose duty shall be to make all necessary arrangements for the meeting, prepare the programme and examine the credentials of all delegates and permanent members who shall attend, and report the same to the Society.

ARTICLE III.—*Fees and Dues.*

SECTION 1. Every permanent member, and every delegate not already a permanent member, shall pay an initiation fee of three dollars, and every member and delegate shall pay annual dues of one dollar. Assessments may be made at any meeting by a vote of two-thirds of the members present.

SEC. 2. The initiation fee shall be three dollars. Every member shall pay one dollar dues, annually, to be collected at the annual meeting. Assessments may be made at any meeting by a vote of two-thirds of the members present.

SEC. 3. The penalty for a violation of the Constitution, By-Laws or Code of Ethics shall be fine, suspension or expulsion. An affirmative vote of three-fourths of the members present shall be necessary for suspension or expulsion, to be taken after the decision of the Judicial Council, and without debate.

ARTICLE IV.—*Miscellaneous.*

SECTION 1. *Quorum.*—Five members shall constitute a quorum for the transaction of business.

SEC. 2. *Special Meetings.*—Special meetings may be called by the President and Secretary, on the written request of three members, the Secretary to give ten days' notice to each member of the time, place and objects of said meeting; and no business shall be transacted except such as shall have been designated in the call.

SEC. 3. *Notices.*—A notice shall be valid which has been served personally, or by writing deposited in the post-office to the address of the party.

SEC. 4. *Usage.*—Parliamentary usage shall govern in the transaction of business, when not otherwise provided for.

SEC. 5. *Amendments.*—These By-Laws may be suspended or amended at an annual meeting, by a resolution submitted in writing, and receiving a two-thirds majority of the members present.

ARTICLE V.—*Order of Business.*

1. Reading minutes of previous meeting.
2. Report of Committee of Arrangements and Credentials.
3. Calling the roll of members.
4. Election of new members.
5. Address of President.
6. Appointment of Auditing and Nominating Committees.
7. Reports of officers.
8. Reports of regular committees.
9. Reports of special committees.
10. Reading of volunteer papers and communications.
11. Report of Nominating Committee, and action on the same.
12. Report of Committee on Necrology, Auditing Committee.
13. Miscellaneous business, appointing committees.
14. Adjournment.

MEMBERS OF THE STATE MEDICAL SOCIETY.

A.

Abdelal, A. G.....Lawrence.
Adams, R. D.....Camden.
Adamson, V. V.....Holton.
Ayer, L. P.....Smith Center.
Abeles, Edward.....Fort Scott.
Aikman, R.....Fort Scott.
Alexander, Reid.....Topeka.
Arbuthnot, C. M.....Belleville.
Axtell, John T.....Newton.

B.

Brock, J. W.....Leavenworth.
Buckmaster, W. H.....Oskaloosa.
Baldwin, G. B.....Fort Scott.
Bell, D.....Richmond.
Bell, J.....Olathe.
Biddle, G. A.....Emporia.
Boyd, G.....Newton.
Buck, L. A.....Peabody.
Bryan, J. D.....Louisburg.
Brooking, S. L.....Wellsville.
Brown, A. C.....Carbondale.
Blakely, S. H.....Severance.
Blackwood, J.....Clay Center.
Broderick, J.....Topeka.
Bunn, W. S.....Larned.
Burdick, J. D.....Carbondale.
Burgen, S. N.....Topeka.
Brown, G. H.....Wyandotte.
Beers, G. L.....Topeka.
Bradley, E. D.....Salina.
Bragg, R. S.....Little River.
Bacon, J. W.....McPherson.
Briarly, J. H.....Delphos.
Bartl, Thos.....Chanute.
Berquest, G. E.....Lindsborg.
Burnett, W. O.....Wellington.
Bidwell, W. D.....Leavenworth.
Bibber, S. M.....Wichita.

C.

Cochrane, W. W.....Atchison.
Carpenter, W. B.....Leavenworth.
Carson, A. W.....Dover.
Cory, J. B.....Wellington.
Cunkie, L. J.....Madison.
Chittenden, R. H.....Lyndon.
Coleman, S. M.....Newton.
Coggershall, G. A.....Ellsworth.
Clutter, W. H.....Frankfort.
Craig, T. C.....Easton.
Crawford, J. R.....Assaria.
Converse, E. D.....Beloit.
Cannon, W.....Smith Center.
Campbell, W. W.....Atchison.
Chase, D. W.....Delphos.
Crans, J.....Sanardville.
Conry, T. J.....Florence.
Conry, A. A.....Florence.
Cazier, M.....Burlingame.
Cordier, A. H.....Windom.
Crowley, J. W.....Salina.

D.

Damour, F.....Waterville.
Dargatz, D. C.....Paxico.
Dickman, F. F.....Fort Scott.
Davis, W. R.....Winfield.
Dailey, F. M.....Scottsville.
Devilbiss, S. B.....La Cygne.
Dodds, R. J. C.....North Cedar.
Dudley, J. B.....Topeka.
Dunn, D.....Independence.
Davis, J. T.....Elk City.
Day, S. W.....McPherson.

E.

Eakin, D. F.....Beloit.
Emerson, Geo.....Winfield.
Eastman, B. D.....Topeka.

F.

Fabigue, A. H.....Wichita.
Fay, J. R.....Topeka.
Foot, James S.....Wichita.
England, G. W.....Lakin.
Furley, C. C.....Wichita.
Fryer, B. E.....Kansas City, Mo.
Freeman, J. D.....Cawker City.
Freeman, J. L.....Wellington.
Fulton, A. L.....Kansas City, Mo.
Few, S. F.....Leavenworth.
Ferguson, W. A.....Atchison.
Filkins, J. W.....Emporia.
Flocken, W. J.....Halstead.

G.

Gough, W. M.....Los Angeles, Cal.
Gibson, W. B.....Topeka.
Gephart, J. T. B.....Valley Falls.
Gish, J. B.....Meriden.
Goddard, J. H.....Sedgwick.
Grass, John.....Trinidad, Col.
Gulbor, C. H.....Beloit.
Gray, G. M.....Wyandotte.
Geeseka, O. A.....Wellsville.
Grubb, L. Y.....Topeka.
Green, C. C.....Winfield.
Gill, H. Z.....El Dorado.
Guy, S. J.....Winfield.
Grant, Fred. E.....Ottawa.
Gillett, L. B.....Medicine Lodge.
Gardner, Chas.....Emporia.

H.

Hall, Sarah.....Fort Scott.
Hammond, E. A.....Topeka.
Hudson, R. D.....Atchison.
Hall, L. S.....Augusta.
Hepler, B. F.....Fort Scott.
Hoover, W. D.....Paola.
Haller, J.....Burlingame.
Hannawalt, H. O.....Kansas City, Mo.
Hatfield, W. M.....Osage City.
Hume, C. R.....Caldwell.
Hughes, P. D.....Kansas City, Kas.
Hogeboom, G. W.....Topeka.
Hibben, J. B.....Topeka.
Hills, J. Z.....Clyde.
Haskins, M. H.....Galva.
Hutchinson, J.....Leavenworth.
Henry, L. M.....Carmel.
Hibben, W. W.....Emporia.
Hill, H. D.....Augusta.
Holmes, C. S.....Gaylord.
Hannaford, J. N.....Marion.
Harvey, W. S.....Wichita.
Holland, D. J.....Atchison.
Hartshorn, W. J.....Junction City.
Hawley, J. E.....Burr Oak.
Hunt, J. M.....Wellington.

J.

Jackman, F. O.....Topeka.
Johnson, B. F.....Everest.
Jones, J. L.....Neosho Falls.
Jenner, J. F.....St. Marys.
Jacobs, L. D.....Emporia.
Justice, J. D.....Belle Plaine.
Jones, S. W.....Leavenworth.
Jones, D. C.....Topeka.

K.

King, W. N.....Abilene.
Knapp, A. H.....Osawatomie.

L.

Linley, J. M.....Atchison.
Lanphear, A. H.....Atchison.
Leigh, A.....Highland.
Leigh, J.....Highland.
Lawrence, J. S.....Emporia.
Linn, H. C.....Topeka.
Loose, C. A.....Peabody.
Lewis, W. E.....Highland.
Love, J. L.....Whiting.
Lyman, L. J.....Manhattan.
Lindsay, W. S.....Topeka.
Lewis, J. P.....Topeka.
Lynde, L. W.....Clifton.
Longshore, D. K.....Topeka.
Lane, J. A.....Leavenworth.
Leary, M. F.....Gaylord.
Lang, E. R.....Ellsworth.
Longnecker, D. F.....Emporia.
Lee, C. P.....Pleasanton.

M.

Mayginnis, N. W.....Atlanta.
Morse, F. D.....Lawrence.
Morris, R.....Lawrence.
Mottram, C. V.....Lawrence.
Miller, V. G.....Lawrence.
Mitchell, M. R.....Topeka.
Mendenhall, R. G.....La Cygne.
Murray, T. H.....Circleville.
Mathis, W. H.....Williamsburg.
Mayfield, I.....Randolph.
McCully, W. A.....Independence.
McCluggage, J. R.....Douglass.
Marsters, G. W.....Cawker City.
Maxon, G. D.....Hartford.
Maggard, J. A.....Wellington.
McVey, R. E.....Topeka.
Maggard, J. J.....Oxford.
Morrall, A.....Wamego.
McCartha, T. L.....Dodge City.
Minney, J. E.....Topeka.
Meacham, E. J.....Concordia.
Miner, H. C.....North Topeka.
Masterman, B. F.....Independence.
Martin, J.....Florence.
Martin, J. C.....Wyandotte.
Moore, J. H.....Spring Hill.
McNary, O. C.....Ft. Leavenworth.
McGuire, C. A.....Topeka.
McGill, J. F.....Leavenworth.
Munn, L. H.....Topeka.
McClintock, J. C.....Topeka.
Metcalf, Adeline E.....Topeka.
McCandless, A. B.....Holton.
Morgan, H. W.....Clay Center.

McVey, W. E.....Topeka.
Miller, H. H.....Rossville.

N.

Neely, S. F.....Leavenworth.
Nye, W. W.....Hiawatha.

O.

O'Brien, M .....Topeka.
O'Brien, D. S.....Beloit.
Oliver, W. F. .....Longton.

P.

Potter, A.....Paola.
Pindell, J. S.....Wellsville.
Payne, J. H.....Delphos.
Page, J. H.....Emporia.
Phillips, E. D. F.....North Lawrence.
Pleasants, J. H.....Cambridge.
Potter, J. L.....Paola.
Pearson, A.....Topeka.
Punton, John.....Kansas City.
Peters, A. B.....Mankato.
Perkins, A. N.....Fredonia.
Pratt, H. F.....Topeka.
Puderbaugh, A.....Osawkie.
Phillips, W. A.....Salina.
Pickens, F. M.....Winfield.
Picard, G. H.....Topeka.
Peers, T. W.....Topeka.
Page, J. H.....Emporia.

R.

Roberts, H. S.....Manhattan.
Robinson, J.....Manhattan.
Robertson, N. T. P.....Hutchinson.
Ross, D. J.....Wyandotte.
Redden, J. W.....Topeka.
Righter, W. H.....Topeka.
Reynolds, S. A .....Clay Center.

S.

Sinks, T.....Leavenworth.
Sheldon, S. E.....Topeka.
Schenck, W. L.....Osage City.
Slosson, E. B .....Sabetha.
Steele, N. .... Beloit.
Switzer, E. R.....Salina.
Shepard, S. T ....Arkansas City.
Scott, J. T.....Holton.
Steinmetz, W. R., U. S. A...Topeka.
Scaman, G. A.....Marysville.
Scaman, W. B.....Marysville.
Seip, W. H.....Atchison.
Smolt, C. F.....Nickerson.
Stivers, C. C.....Effingham.
Sherrick, J. D.. .....Newton.
Shriner, C. H.....Baxter Springs.
Still, J. J.....Arvonia.
Sieber, L .....Ellsworth.
Smith, M. B.....McPherson.
Scaman, E. A.....Columbus.
Scholes, J. P.....Galena.
Shaw, E. B.....Osage City.
Sawhill, N. F.....Concordia.
Sweezey, T. J.....Osage City.
Sellards, A. W.....Scranton.
Sellards, A. B.....Scranton.
Stair, J. G.....Topeka.
Stewart, S. G .....Topeka.
Shelly, S. S.....Mulvane.
Surber, C. C.....Delphos.
Stewart, J. B.....Clay Center.
Sumner, G. L.....Leavenworth.

T.

Tefft, H. K.....Topeka.
Taylor, N. J.....Topeka.
Tenney, A. P.....Wyandotte.
Trueheart, P. P.....Sterling.
Trueworthy, J. W.....Kansas City.
Terwilliger, L. L.....Lansing.
Thompson, F.....Baldwin City.
Taylor, S. F.....Leavenworth.
Thornburg, J. R.....Princeton.
Terry, N. F.....Lyons.
Tefft, F. E.....Topeka.
Toudy, T. B.....Winfield.
Toby, N. D.....Salina.

U.

Uhls, L. L.....White City.
Uhl, W. A.....Richmond.

V.

Van Duyn, A. C.....Leavenworth.
Van Eman, W. J.....Leavenworth.

W.

Wever, J. L.....Leavenworth.
Woodward, H. P .....Wamego.
Wakefield, C. A .....Eureka.
Wagstaff, M. P .....Hiawatha.
Wells, N. S.....Topeka.
Wassam, A. M.....Eureka.
Willetts, J. R.....Fredonia.
Wood, R. M .....Kansas City.
White, L. R.....Scandia.
Ward, M. B.....Topeka.
Wilber, Geo. D.....Pittsburg.
Woodson, E. W .....El Dorado.
Wright, Geo. C.....Arkansas City.
Ward, Charles.....Topeka.

W.

Wright, W. T.....Winfield.
Williamson, W. A.....Topeka.
Warren, L. J.....Clay Center.
Wright, J. J.....Emporia.
Wall, G. A.....Topeka.
Whitticar, O. B.....Peabody.

HONORARY MEMBERS.

Dr. Geo. Halley.....Kansas City, Mo.
Dr. F. M. Johnson.....Kansas City, Mo.
Dr. D. R. Porter.....Kansas City, Mo.
Dr. S. S. Todd.....Kansas City, Mo.
Dr. E. W. Schauffler.....Kansas City, Mo.
Dr. F. B. Tiffany.....Kansas City, Mo.
Dr. J. T. Wilson.....Weston, Mo.
Dr. J. M. Richmond.....St. Joseph, Mo.
Dr. D. S. McGruder, U.S.A..Ft. Leavenworth.
Dr. M. A. Bogie.....Kansas City, Mo.
Dr. C. W. Adams.....Kansas City, Mo.
Dr. J. H. Duncan.....Kansas City, Mo.
Dr. N. A. Drake.....Kansas City, Mo.
Dr. W. C. Tyree.....Kansas City, Mo.
Dr. J. H. Thompson.....Kansas City, Mo.
Dr. J. W. Elleton.....Kansas City, Mo.
Dr. J. W. Jackson.....Kansas City, Mo.
Dr. W. C. Dugan.....Anchorage, Ky.
Dr. Emory S. Lanphear...Kansas City, Mo.
Dr. Willis P. King.....Sedalia, Mo.
Dr. J. T. Miller.....Cambridge, O.
Dr. T. J. Miller.....Topeka, Kas.

TABLE OF CONTENTS.

Page.

TRANSACTIONS OF 1878 3
Address of the President, W. L. Schenck, M. D., Osage City 7
Conservative Medicine—W. W. Cochrane, M. D., Atchison 26
Diphtheria—C. C. Furley, M. D., Wichita 30
Laceration of the Perineum—J. H. Stuart, M. D., Lawrence 35
Report on Obstetrics—H. P. Woodward, M. D., Wamego 17
Recent Advances in Chemistry—S. Whitehorn, M. D., Wichita 21
The Eye and Some of its Diseases—B. E. Fryer, M. D., U. S. Army, Leavenworth, 39

TRANSACTIONS OF 1879 59
Address of the President 65
Address, Public—T. Sinks, M. D., Leavenworth 74
Atelectasis—C. P. Lee, M. D., Pleasanton 97
A Case of Chronic Dislocation of Hip—Reduction Unsuccessful—C. V. Mottram, M. D., Lawrence 137
A Case of Sacciform Aneurism of the Aorta—C. V. Mottram, M. D., Lawrence, 139
A Few Practical Thoughts on the Use of Chloroform—R. Morris, M. D., Lawrence 134
Cases Reported—W. L. Schenck, M. D., Osage City 127
Practical Thoughts on the Treatment of Fractures—J. M. Carpenter, M. D., Leavenworth 86
Puerperal Convulsions—George W. Haldeman, M. D., Paola 104
Report of a Case of Nephritis and Cystitis—J. B. Woodward, M. D., Olathe 101
Recent Advances in Chemistry—J. B. Gish, M. D., Valley Falls 110
Report on Practical Medicine—W. B. Carpenter, M. D., Lansing 113
Report on Anæsthesia—W. W. Cochrane, M. D., Atchison 123
Remarks on the Recent Advances in Ophthalmology—B. E. Fryer, M. D., Leavenworth 129

TRANSACTIONS OF 1880 141
Address of the President, C. C. Furley, M. D., Wichita 149
An Anomalous Bigeminal Pregnancy—Geo. H. Randall, M. D., Easton 153
Antiseptic Surgery—A. S. Floyd, M. D., Sedgwick 154
Eclampsia Puerperalis Hysterica—C. C. Shoyer, Leavenworth 170
Notes of Three Cases—J. W. Brock, M. D., Leavenworth 170
Neuromatous Tumor, with Excision of a Section of the Great Sciatic Nerve—J. A. Coons, M. D., Spring Hill 152
On the Recent Advances in Medicine and Surgery of the Eye—B. E. Fryer, M. D., Leavenworth 158
Report of Committee on Necrology—(A. B. Taylor) 184
Report of the Examining Board 185
Report on Diphtheria—D. Ross, M. D., Oskaloosa 172
Stricture of the Urethra of Large Calibre—J. W. Richmond, M. D., St. Joseph, Mo. 179
Treatment of Syphilis by Hypodermic Sublimate Injections—F. Seiber, M. D., Ellsworth 165

TRANSACTIONS OF 1881 215
Address of the President, B. E. Fryer, M. D., U. S. Army, Leavenworth 223
A Case of Heart Disease—Gaston Boyd, M. D., Newton 235
A Case of Uterine Polypus, with Specimens—L. J. Lyman, M. D., Manhattan 254
Act of Incorporation 309
Code of Medical Ethics 315
Fever and its Antipyretic Treatment—G. B. Baldwin, M. D., Fort Scott 279
Hernia—G. A. Picard, M. D., Topeka 231
Lister's Atmospheric Ferment—Edmund D. Converse, M. D., Beloit 274
Psychical and Physical Forces, Physiologically Distinguished—A. H. Lanphear, M. D., Atchison 287
Public Address, J. B. Stuart, M. D., Lawrence 225
Puerperal Insanity—D. B. Eastman, M. D., Topeka 262
Report of Committee on Physiology—Digestion—M. R. Mitchell, M. D., Topeka, 250
Recent Advances in Ophthalmology—B. E. Fryer, M. D., U. S. A., Leavenworth, 237
Report of Case—W. L. Schenck, M. D., Osage City 256
Report on Anæsthetics—W. W. Cochrane, Atchison 260
Report of Committee on Necrology 308
Supplemental Report of Examining Board 308

TRANSACTIONS OF 1882 327
Draft of a Medical Law 335
Fracture of Vertebræ—W. L. Schenck, M. D., Osage City 379
Gunshot Wound of the Heart—G. L. Stone, M. D., Iowa Point 378
Morality from a Medical Standpoint—J. B. Hibben, M. D., Emporia 355
Opening Address, George W. Haldeman, M. D., Paola 334
On Bloodletting—J. M. Carpenter, M. D., Lancaster 367
Recent Advances in Opthalmology—B. E. Fryer, M. D., Leavenworth 337
Recent Advances in Surgery, Resection of Intestines and Stomach—A. Leigh, M. D., Highland 350
Resection of Stomach 353
Report of a Case of Resection of Tibia and Fibula 365
Report on Obstetrics—W. W. Cochrane, M. D., Atchison 372
Report on Necrology—Samuel Rush Gibney, M. D. 384
Sanitation of the Sick-Room—John Grass, M. D., Independence 360

TRANSACTIONS OF 1883 391

TRANSACTIONS OF 1884 398

TRANSACTIONS OF 1885 403

NINETEENTH ANNUAL SESSION, 1886 412

TWENTIETH ANNUAL SESSION 413
Constitution 418

TRANSACTIONS OF 1887 421
Proposed Constitution 424

TRANSACTIONS OF 1888 429
Address of Welcome—Judge John Martin, Topeka 429
Address, Response—W. L. Schenck, M. D., Osage City 430
A Communication from Mrs. Dr. D. W. Stormont, Topeka 436
Abdominal Surgery 456
Alopecia Prematura—T. J. Miller, M. D., Cambridge, Ohio 479
Albuminuria—W. L. Schenck, M. D., Osage City 495
Compound Fractures of Long Bones 449
Cystotomy, Supra-Pubic 456

TRANSACTIONS OF 1888 — *Concluded:*
Cholera — W. W. Cochrane, M. D., Atchison 488
Constitution and By-Laws 523
Cell Physiology — J. A. Lane, M. D., Leavenworth 470
Indigestion — R. E. McVey, M. D., Topeka 478
Medical Jurisprudence — Hon. J. T. Bradley, Topeka 457
Necrology — (Dr. Stormont, Dr. Baldwin,) 519
Operations on the Chest 452
Progress in Obstetrics — N. T. P. Robertson, M. D., Hutchinson 465
Potts Fracture — A. H. Cordier, M. D., Windom 483
Physioderm and Pathoderm — W. W. Cochrane, M. D., Atchison 502
Report on Surgery — H. Z. Gill, M. D., El Dorado 440
Rectal Diseases in Women — J. M. Richmond, M. D., St. Joseph, Mo 505
Shall a Medical College be Established in Kansas? — J. A. Lippincott, State University, Lawrence 507
Surgery of the Brain 446

HIC 1112